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CURTIS'S
BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew

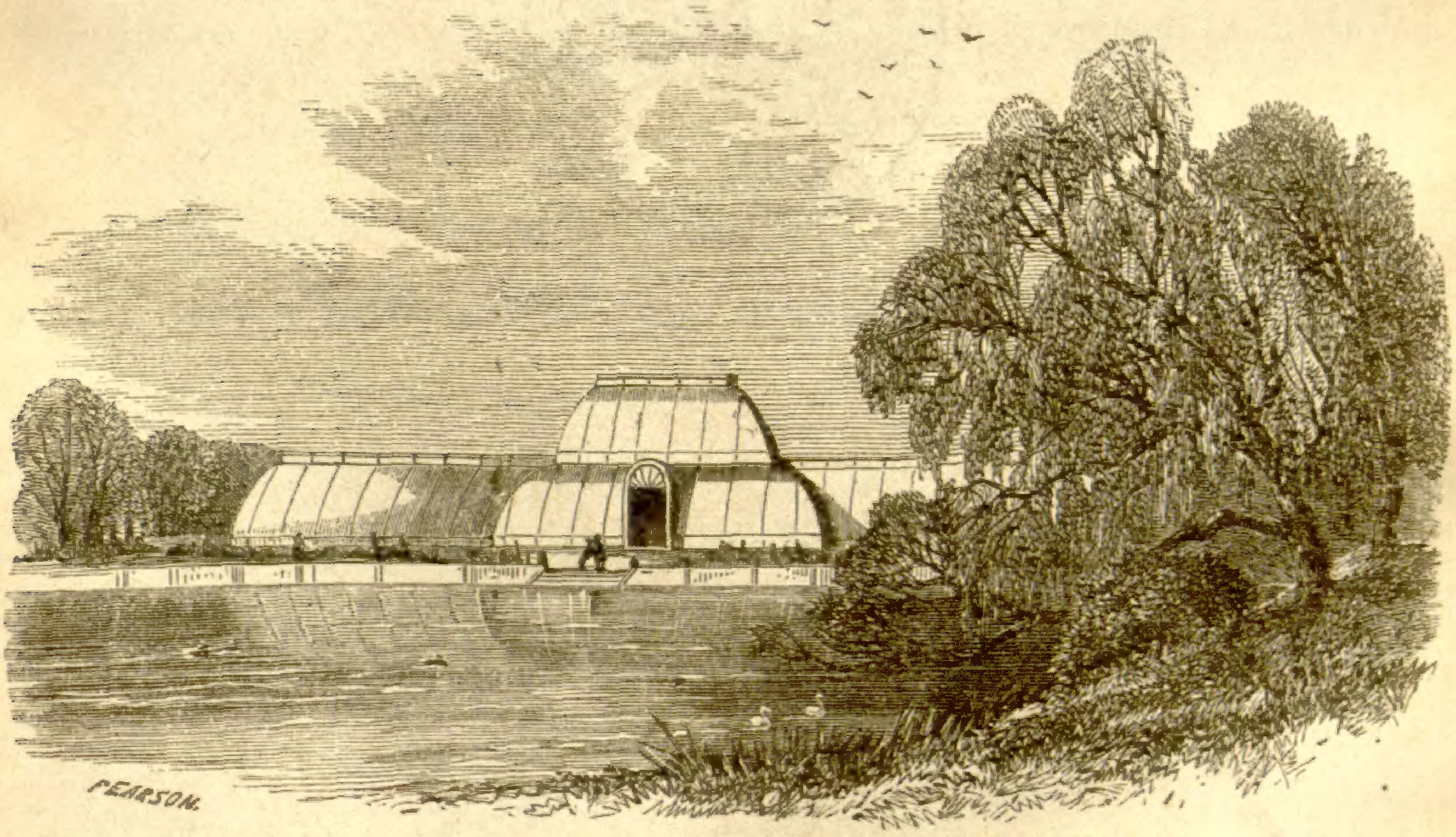
AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;
WITH SUITABLE DESCRIPTIONS;

BY

JOSEPH DALTON HOOKER, M.D., F.R.S. L.S. & G.S.,
D.C.L. OXON., LL.D. CANTAB., CORRESPONDENT OF THE INSTITUTE OF FRANCE.

VOL. XXIII.
OF THE THIRD SERIES;
(Or Vol. XCIII. of the Whole Work.)



> "The earth's embroidery then have ye eyed,
> And smile of blossoms, purple, red, and white;
> Their vernal-tinctured leaves, luxurious, dyed
> In Flora's livery, painted by the light."
>
> *W. Thomson.*

LONDON:
L. REEVE & CO., 5, HENRIETTA STREET, COVENT GARDEN.
1867.

Mo. Bot. Garden,
1897.

SHOUT
SHARE
IT

NULLA DIES SINE LINEA.

J. E. TAYLOR AND CO., PRINTERS,
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TO

DANIEL OLIVER, F.R.S., F.L.S.,

KEEPER OF THE HERBARIUM AND LIBRARY IN THE ROYAL GARDENS, KEW,

AND PROFESSOR OF BOTANY IN UNIVERSITY COLLEGE, LONDON.

MY DEAR OLIVER,—

In dedicating this Volume to you, I am desirous of recording the services you have rendered me, not only in its preparation and in that of the previous volumes published under my authorship; but as the efficient Keeper of that Herbarium and Library, upon the perfect order and scientific arrangement of which the 'BOTANICAL MAGAZINE' *is dependent for whatever scientific merit it possesses.*

Ever affectionately yours,

JOS. D. HOOKER.

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JOSEPH DALTON HOOKER, M.D., F.R.S. L.S. & G.S.,
Director of the Royal Botanic Gardens of Kew.

Nature and Art to adorn the page combine,
And flowers exotic grace our northern clime.

LONDON:
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1867.

Mo. Bot. Garden,

NOTICE TO FRUIT GROWERS

J. HOUSE,

EASTGATE NURSERY, PETERBOROUGH,

IS NOW PREPARED TO SEND OUT

THE SEEDLING APPLE, "LORD BURGHLEY,"

FOR WHICH HE WAS AWARDED

A FIRST-CLASS CERTIFICATE

AT THE

ROYAL HORTICULTURAL SOCIETY, MARCH 21ST, 1865.

In the 'Journal of Horticulture and Cottage Gardener' of March 28th, 1865, the following notice appears in connection with the Fruit Committee of the Royal Horticultural Society (Geo. F. Wilson, Esq., F.R.S., in the chair):—"A seedling Apple, of unusual excellence at this season of the year, was exhibited by Mr. House, of Peterborough, and which has been named 'Lord Burghley.' It is of medium size, roundish, and slightly flattened; is somewhat bluntly angular on the side, and ridged on the apex, this being caused by the prominent termination of the side angles. The skin, on the shaded side, is of a deep golden-yellow, and on that next the sun of a deep clear shining crimson. The whole surface is dotted over with large russet specks, like the Golden Reinette. The eye is somewhat closed, and set in a pretty deep basin, which is uneven, in consequence of the angles which terminate there. Stalk half an inch to three-quarters long, frequently a mere knob. Flesh yellowish, very tender, leaving but little mark in the mouth, very juicy, sweet, and with a fine pine flavour and rich aroma. This delicious Apple is now in perfection, and has the appearance as if it would keep for two months hence. Apart from its excellent quality, it is highly ornamental, and has a tenderness of flesh, and a flavour similar and equal to Cox's Orange Pippin. It was awarded a first-class certificate."

In the 'Gardeners' Chronicle' of the 25th of March, 1865:—"A valuable hardy-looking seedling Apple, named Lord Burghley, from Mr. House, of Peterborough, to which a certificate was awarded."

THE FOLLOWING TESTIMONIALS HAVE ALSO BEEN RECEIVED BY MR. HOUSE:—

Messrs. Rivers and Co., Sawbridgeworth, March 15th, 1865.

Sir,—Your Apple is remarkably handsome and sound, and one of the finest dessert apples known.

Messrs. Lee and Co., Hammersmith, March 22nd, 1865.

Sir,—The Apple you exhibited yesterday was very sound and good flavoured.

Mr. J. R. Pearson, Chilwell, March 17th, 1865.

Sir,—Your Apple is the best I know of.

Mr. Matheson, Gardener at Burghley Hall, Stamford, March 24th, 1865.

Sir,—Your dessert Apple is the best I have ever seen.

Mr. Davie, Gardener at Orton Hall, April 7th, 1865.

Sir,—Your Apple is remarkably sound, handsome, and excellent in flavour.

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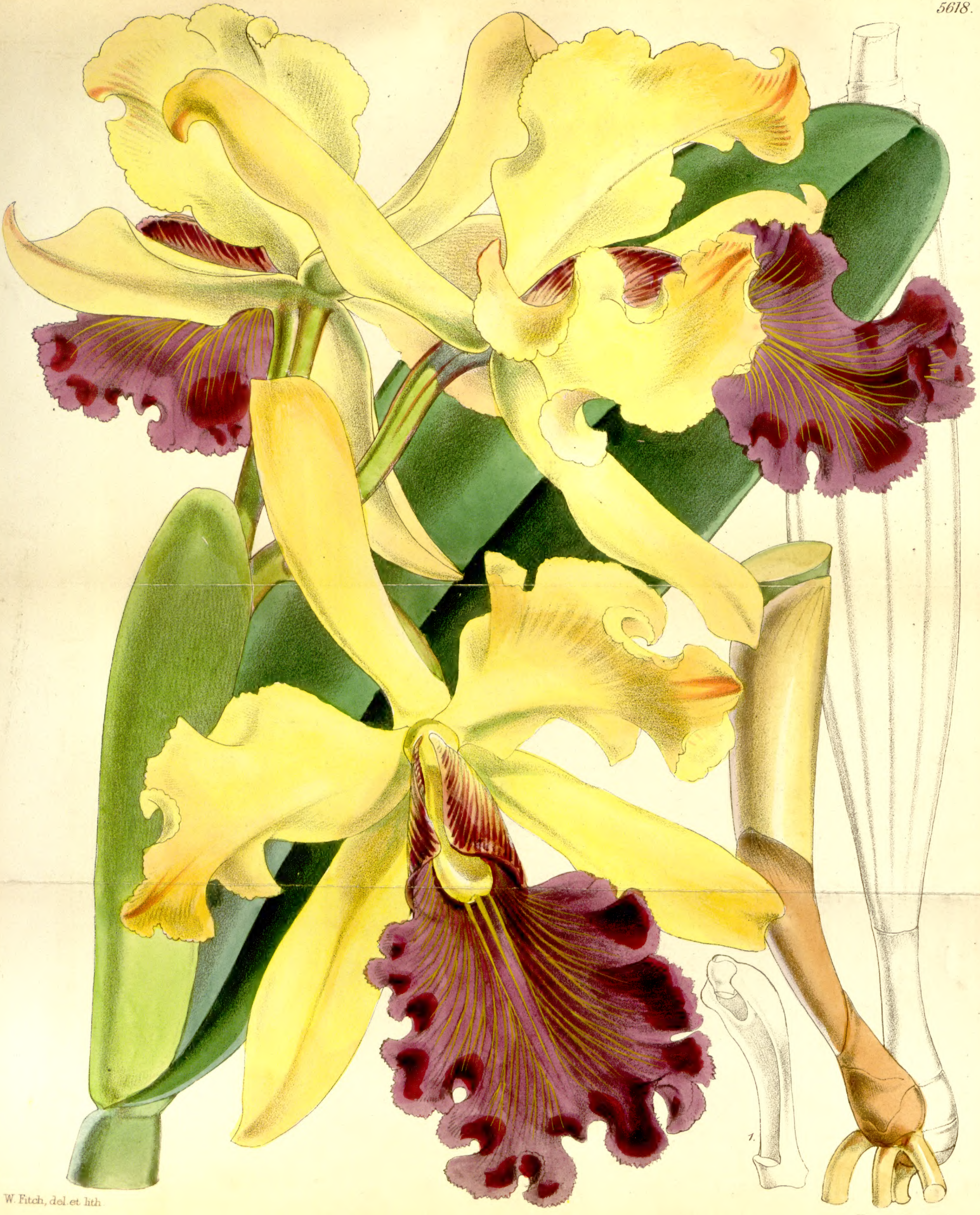

W. Fitch, del et lith

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TAB. 5618.

CATTLEYA DOWIANA.

Captain Dow's Cattleya.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4700).

CATTLEYA *Dowiana;* pseudobulbis validis clavatis sulcatis monophyllis, foliis lato-oblongis obtusis, spathâ obtusâ pedunculo 2–6-floro subæquali, floribus speciosissimis, sepalis lanceolatis acutis sessilibus planis, petalis plus quam duplo latioribus margine contortis obtusiusculis labello subæqualibus, labello maximo obscure trilobo oblongo emarginato crispo disco lævi amplissimo velutino atro-purpureo venis aureis pulcherrime ornato, columnâ subarcuatâ labello ferè obtectâ et labello 3-plo breviore.

CATTLEYA Dowiana. *Bateman in Gard. Chron., Oct.* 1866.

This superb Cattleya was originally discovered by Warszewicz in Costa Rica, and by him plants were forwarded to this country; but arriving in bad condition they eventually died. The dried specimens moreover that accompanied the living plants seem to have been mislaid or destroyed, so that during the last ten years doubts had come to be entertained as to the existence of a really distinct species of such unexampled beauty as that which the letters of the veteran traveller described. And in the mean time his name was given to another supposed species respecting which the greatest confusion now prevails, and which, whether or not it be a mere variety of *C. Mossiæ* (*labiata*), is at all events perfectly different from the glorious thing to which even the double plate on the opposite page fails to do adequate justice.

Fortunately for the lovers of fine Orchids the plant, such as Warszewicz originally described it, was rediscovered in 1864 by M. Arce, a zealous naturalist who was and is still busily engaged in collecting birds, insects, and plants, for Mr. Salvin and Mr. Skinner, throughout some of the richest portions of Costa Rica. The plants which Arce sent home

JANUARY 1ST, 1867.

were purchased by Messrs. Veitch and Son, in whose establishment at Chelsea one of them flowered for the first time in the autumn of 1865. To their liberality I am myself indebted for a specimen that subsequently flowered at Knypersley and which was (in the autumn of 1866) exhibited at one of the Tuesday meetings of the Royal Horticultural Society at South Kensington. From this Mr. Fitch's drawing was made. Beautiful as the latter is, it probably gives but a poor idea of what the plant will ultimately become, for the native specimens in Messrs. Veitch's possession have some of them borne as many as five or six flowers on a scape.

Utterly unlike as are the nankeen and purple colours of our plant to those of every other Cattleya, still as colour alone is scarcely considered a sufficient botanical distinction, and as in the mere form of its flowers *C. Dowiana* comes very near to some of the many varieties of *C. Mossiæ*, there was for a while some doubt on my mind as to whether it might not eventually have itself to be ranked among the number, especially as *C. pallida*, which has been shown (see Tab. 5504) to be undistinguishable from other forms of *C. labiata*, has been found by Hartweg as far north as Oaxaca. I have lately however seen a letter from Messrs. Low's Costa Rica collector, who, after announcing his discovery of what he then supposed to be a new Cattleya, goes on to describe the colours, which are precisely those of *C. Dowiana*, thus proving at all events that the latter is not given to sport or change, and I am therefore now fully disposed to believe that it is essentially distinct from all other members of the genus. Be this as it may, it is a worthy plant to bear the name of a gallant officer in the American Packet service, the well-known Captain J. M. Dow, to whom I have great pleasure in dedicating it, as some slight acknowledgment of the many kindnesses shown and the frequent assistance rendered to English naturalists and men of science who have been so fortunate as to come in his way in their passage along the coasts of the Pacific.

C. Dowiana is very easily grown, but the warmest end of the Cattleya house seems to suit it best.

DESCR. *Pseudobulbs* eight inches to a foot high, slender at the base but very much swollen in their upper portion, furrowed. *Leaves* one on each pseudobulb, oblong, thick, and rather broad for the genus, from a span to a foot long. *Peduncle* two- to six-flowered, exceedingly stout, about six inches long, proceeding from a *spathe* somewhat shorter than itself. *Flowers* very large and beautiful, nankeen-coloured with the exception of the lip, their total expansion nearly seven inches. *Sepals* lanceolate, acute, sessile, smooth at the edges. *Petals* more than twice as broad as the sepals, about the same length as the lip, somewhat obtuse, very much waved at the margin. *Lip* oblong, crisp, very large and prominent, of a substance resembling dark purple velvet beautifully and uniformly streaked with golden threads radiating from its centre, where they meet three other golden lines passing longitudinally. It is obscurely three-lobed, the lateral lobes being gathered round so as almost to conceal the column; the central lobe emarginate, very large, with its edges exceedingly curled. *Column* not more than one third the length of the lip.—*J. B.*

5619.

W. Fitch, del et lith.

Vincent Brooks, Imp

TAB. 5619.

BOWIEA VOLUBILIS.

Twining Bowiea.

Nat. Ord. LILIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Flores abortu monoici. *Perianthium* 6-partitum, herbaceum, laciniis patenti-reflexis lineari-subulatis apicibus incurvis glandulosis. *Stamina* hypogyna, in fl. ♀ imperfecta, minuta, in fl. ♂ filamentis lineari-subulatis; *antheræ* oblongæ, 2-loculares. *Ovarium* conico-hemisphæricum, lata basi sessile, 3-loculare; *stylus* breviusculus, rectus, stigmate capitato 3-lobo; *ovula* in loculis ad 6. *Capsula* oblongo-conica, obtusa, 3-gona, membranacea, loculicide 3-valvis, polysperma. *Semina* irregulariter oblonga, compressa; testa laxa membranacea, atra, splendila.—Herba *aphylla.* Tuber *globosum, carnosum, apice nudum v. squamis paucis parvis triangulari-subulatis circa basin pedunculi imbricatis coronatum.* Pedunculus floriferus *volubilis, viridis, carnosulus, ramosissimus, ramis inferioribus ramulosis, ramulis dichotomis divaricatis teretibus corniculatis non floriferis, superioribus in pedicellis elongatis curvis desinentibus.* Flores *inter minores, virides.*

BOWIEA *volubilis. Harv. mss.*

Though possessing little beauty, this is certainly one of the most curious plants ever introduced into Europe, and is further perfectly new to science; for though in botanical characters allied to *Drimia* and *Scilla*, in habit and general appearance it is like no other plant whatever. It consists of little more than a globose, fleshy, almost tuberous, green bulb, from the apex of which ascends yearly a very slender, twining, green flower-stem, six to eight feet high, that throws off an abundance of compound, curving, flowerless branches below, and above bears numerous small, green flowers. For several years a specimen of this plant, sent to the Royal Gardens by Henry Hutton, Esq., of Grahamstown, was an object of great curiosity at Kew; the twining, branched flower-stem ascended, like a Cape Asparagus, the rafters of the succulent-house for four or five feet, and as this bore no flowers, was presumed to be a branched, leafless stem proper. This died down the same year, and no one guessed the family of plants to which it belonged. In the following year a similar twining stem produced a few minute flower-buds, which were sent to my friend the late Dr. Harvey, who identified them with a plant of which he had dried specimens, collected on the eastern frontier of the Cape district by Mrs. Barber, and to which he had attached the manuscript name of *Bowiea,* in honour of the late Mr. Bowie, formerly collector for the Royal Gardens, Kew, and latterly superintendent of the late Baron Ludwig's Garden at Cape Town, the old genus *Bowiea* having been reduced to *Aloe.* Other living specimens have since been received from Mrs. Barber and from Mr. Wilson Saunders, F.R.S., collected by Cooper, and it is from one of the latter that the accompanying drawing has been made.

DESCR. Wholly green, rather fleshy. *Bulb* as large as an orange, green, the coats few, very thick, fleshy, with yellow margins. *Leaves* 0, except a few scales at the apex of the bulb. *Flowering-stem* or *scape* solitary, very slender, two to four feet long, twining, excessively branched, the branches intertwisted, repeatedly dichotomously divided, the branchlets curved, divaricating, terete, without flowers. *Flowering peduncles* at the upper part of the scape, on its axis or branches, one to two inches long, slender, divaricating. *Flowers* half to two-thirds of an inch in diameter. *Perianth* six-cleft to the base; *segments* linear or lanceolate-subulate, with incurved tips. *Stamens* inserted at the base of the ovary; *filaments* slender, subulate; *anthers* oblong. *Ovary* three-celled, with several ovules in each cell; *style* short; *stigma* capitate, three-lobed. *Capsule* membranous, oblong, three-valved. *Seeds* several, flattened, with a loose, black, brilliant testa.—*J. D. H.*

Fig. 1. Flower. 2. Stamen. 3. Ovary. 4. Transverse section of ditto:—*all magnified.*

5620.

W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5620.

CURCUMA AUSTRALASICA.

Australian Wild Turmeric.

Nat. Ord. ZINGIBERACEÆ.—MONANDRIA MONOGYNIA.

Gen. Char. Calyx tubulosus, 3-dentatus. *Corollæ* tubus sursum dilatatus, limbi laciniæ exteriores interioribus lateralibus conformes; *labellum* majus, patens. *Filamentum* petaloideo-dilatatum, carinatum, apice 2-lobum, lobo intermedio *anthera* 2-calcarata terminato. *Ovarium* inferum, 3-loculare; *stylus* filiformis, stigmate capitato; *ovula* in loculorum angulo centrali plurima, horizontalia, anatropa. *Capsula* 3-locularis, loculicide 3-valvis. *Semina* plurima, arillata.—Herbæ *in* India orientali *tropica indigenæ, acaules, radicibus palmato-tuberosis.* Folia *petiolata, herbacea, petiolis vaginantibus.* Scapus *simplex, lateralis v. centralis.* Spica *erecta, carnosa, inferne bracteis saccatis subimbricata.* Flores *flavescentes, intra quamvis bracteam 3–5-ni, approximati, bracteolati.*

CURCUMA *Australasica;* foliis petiolatis oblongo v. ovato-lanceolatis acuminatis glaberrimis, scapo terminali, spica multiflora, bracteis inferioribus obtusis recurvis flore brevioribus viridibus, supremis oblongis oblongo-lanceolatisve acutis acuminatisve roseis, calycis tubo corollæ dimidio breviore, lobis brevibus rotundatis, corollæ laciniis oblongis obtusis, labello orbiculato recurvo retuso v. emarginato marginibus undulatis, anthera oblonga calcaribus conniventibus, filamento lato cucullato.

Of the extensive and beautiful Indian genus *Curcuma*, no species had been known to inhabit Australia previous to the visit of Mr. John Veitch to that continent, who was the discoverer and means of introducing the present species from its north-eastern corner (Cape York) into England. The plant here figured flowered in Messrs. Veitch's establishment in August of the last year, and the same specimen, presented by them to the Royal Gardens, continued in flower throughout the following month and beginning of October, forming a very striking ornament in one of the tropical stoves, where it lifted its beautiful crown of transparent, rose-coloured bracts above the surrounding green foliage. As a species, it approaches extremely near to two Indian ones, described by Dr. Roxburgh, viz. the common *C. longa* (Turmeric), and *C. montana*, differing from both in the cucullate bracts, with

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recurved tips, and in the broader base of the leaf. The root is white, and has but a slight aroma.

Descr. *Root* of bundles of cylindric, white tubers, constricted here and there. *Leaves* a foot to a foot and a half long, narrow-lanceolate or lanceolate, with a rounded base, acuminate. *Scape* terminal, at first short, then lengthening considerably. *Spike* five to seven inches long, cylindric, many-flowered. *Bracts*, lower cucullate, close set, and connate by their bases, obtuse, recurved, green; upper spreading, oblong, acute, rose-red, one inch long. *Flowers* pale-yellow. *Ovary* globose. *Calyx-tube* half as long as the corolla-tube; *lobes* three, obtuse. *Corolla-lobes* oblong, obtuse. *Lip* orbicular. *Anther* oblong, with conniving spurs. *Staminodes* terete.—*J. D. H.*

Fig. 1. Front, and 2. Side view of flower. 3. Stamen and stigma. 4. Side view of do. 5. Side view of ovary and staminodia. 6. Front view of staminodes:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5621.

HELIANTHEMUM OCYMOIDES.

Basil-like Rock-rose.

Nat. Ord. CISTINEÆ.—POLYANDRIA MONOGYNIA.

Gen. Char. Petala, in floribus perfectis, 5. *Stamina* numerosa. *Ovarii* placentæ v. semisepta 3; *ovula* in quavis placenta ∞; *stylus* cum ovario articulatus, filiformis v. subclavatus, nunc abbreviatus; *stigma* capitatum v. cristato-3-lobum. *Embryo* uncinatus, 2-plicatus v. circumflexus.—Herbæ suffruticesv*e, basi sæpius decumbenti-ramosæ.* Flores *sæpius in racemos terminales, simplices v. 2-fidos dispositi v. inferiores axillares.* Petala *lata.*

HELIANTHEMUM *ocymoides;* caule suffruticoso erecto ramoso gracili, ramis incanis hic illic pilosis, foliis oppositis lineari- v. spathulato-oblongis acutis obtusisve apice recurvis utrinque incanis, pedunculis elongatis superne subcorymbosim ramosis gracilibus laxe patentim pilosis, sepalis 3 ovatis longe acuminatis pubescentibus v. tomentosis, petalis late obcordatis basi purpureis, stylo brevi, stigmate magno capitato.

HELIANTHEMUM ocymoides. *Persoon, Ench. v.* 11. 76. *DC. Prodr. v.* 1. *p.* 267. *Sweet Cistin. t.* 13.

CISTUS ocymoides. *Lam. Dict. v.* 11. *p.* 18.

CISTUS sampsucifolius. *Cavan. p.* 65. *t.* 96, *non Milleri.*

A most beautiful hardy Rock- or Sun-rose, native of Spain and Portugal, where, like its congeners, it inhabits dry, rocky hills. It was for some years cultivated in the Royal Gardens, Kew, and flowered in July in an open border, though apt to be cut by the frost. The beautiful genus to which this belongs was once a favourite in cultivation, but has of late given way before the rage for "bedding-out plants," which now monopolize the once varied borders of English gardens. No less than seventy species of *Helianthemum*, besides varieties, are figured in Sweet's valuable work on the cultivated plants of the Order, published in 1830, and of these a great number are now no longer to be found in England. It is to be hoped that the time will yet come when the taste for really beautiful and interesting plants will

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reign again, and replace the present passion for a blaze of gaudy colours along our garden walks.

Descr. A *shrub* two to three feet high, slender, twiggy, with erect, rather flexuous branches, everywhere covered on the leaves and branches with a hoary pubescence. *Leaves* opposite, half to one and a half inch long, those on the main stems and branches linear-oblong acute, those on the branchlets more spathulate, with recurved tips, all equally hoary on both surfaces. *Peduncles* very slender, six to nine inches long, many-flowered. *Pedicels* corymbose, branched towards the tip of the peduncle, opposite below, half to one inch long, erect, as well as the peduncles covered with loose soft, very spreading hairs. *Flowers* an inch and a quarter to an inch and a half broad, bright yellow with a purple eye. *Sepals* ovate, long acuminate, subtended by two linear narrow bracts, tomentose on the back. *Petals* broadly and shallowly obcordate, with an apiculus between the lobes. *Stamens* unequal, very numerous; filaments short; anthers purple, with yellow pollen. *Ovary* globose, villous; style very short; stigma large, capitate, three-lobed.—*J. D. H.*

Fig. 1. Calyx and ovary.

5622.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5622.

GRIAS CAULIFLORA.

Anchovy Pear.

Nat. Ord. MYRTACEÆ.—MONADELPHIA POLYANDRIA.

Gen. Char. Calycis tubus turbinatus, supra ovarium haud productus, limbus cupulatus, demum in lobos 2–4 irregulariter ruptus. *Petala* 4, rarius 5, patentia. *Stamina* ∞, disco crasso subcupulato ∞-seriatim inserta, interiora minora, filamentis crassis in globum conniventibus involutis; antheræ parvæ, loculis distinctis longitudinaliter dehiscentibus. *Ovarium* inferum, 4-loculare; stylus 0 v. breviter conicus, stigmatibus 4 cruciatim radiantibus; ovula in loculis 2–4, pendula. *Fructus* carnosus, ovoideus, calycis limbo coronatus. *Semen* sæpius 1, pendulum, testa crassa.—Arbores *excelsæ Americanæ.* Folia *alterna, ad apices ramulorum conferta, sæpe longissima, penninervia, integerrima v. obscure sinuato-dentata, epunctata.* Flores *in trunco ramisque breviter pedicellati et subsessiles, fasciculati.*

GRIAS *cauliflora;* foliis lanceolatis acuminatis recurvis glaberrimis, pedunculis brevibus crassis multifloris, floribus pallide flavis, petalis oblongis obtusis.

GRIAS cauliflora. *Linn. Sp. Pl.* 732. *DC. Prodr. v.* 3. *p.* 296. *Griseb. Fl. Brit. W. Ind. p.* 243.

Anchovy Pear. *Sloane Hist. Jam. v.* 2, *p.* 122. *t.* 217. *f.* 1, 2. *Browne, Jam. p.* 245. *Lunan, Hort. Jam. v.* 1. *p.* 19.

This is a plant of considerable interest, in a horticultural and perhaps also in an economic point of view. In the first place, it is one of the most striking and easily managed of all those stately, palm-like tropical dicotyledonous trees that are so greatly admired, and are essential for the decoration of every stove; and in the next place, as the "Anchovy Pear," it has long been, according to some authorities, in esteem as a West Indian fruit. The latter is a large, brown, fleshy drupe, like that of the Mammee-apple, which was, according to Sloane, pickled and eaten by the Spaniards in lieu of mangoes, and was sent as a great rarity to Spain. Browne, in his 'Natural History of Jamaica,' says nothing of the value of the fruit, but M'Fadyen, who represents the English taste

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in such matters, says in his second volume (unpublished), "I cannot learn that the fruit is ever collected for use, or brought to the market."

The *Grias cauliflora* is found throughout the Spanish Main, growing in clumps or thickets, and its flowers are deliciously sweet-scented. It has flowered several times at Kew, and lately in September of last year.

DESCR. A *tree* twenty to fifty feet high, trunk undivided or with a few simple branches. *Leaves* crowded at the ends of the branches, spreading and drooping, three to four feet long, ten inches broad, obovate-lanceolate, acuminate, cuneate at the base and continuous with the short petiole, quite entire or obscurely waved and crenulate, dark green, quite glabrous, shining. *Flowers* on short stout branching peduncles, produced on the trunk far below the leaves, two inches broad, pale yellow, very fragrant. *Calyx* limb irregularly four-cleft. *Petals* four, fleshy, oblong, obtuse, nerveless. *Stamens* crowded, incurved. *Apex* of *ovary* square and red. *Fruit* ovate, eight-grooved, containing an oblong, one-seeded nut.—*J. D. H.*

Fig. 1. Whole plant, *reduced*. 2. Branch and flower, *nat. size*. 3. Ovary and calyx. 4. Transverse section of ditto. 5. Vertical section of stamen. 6. Stamen:—*all magnified*.

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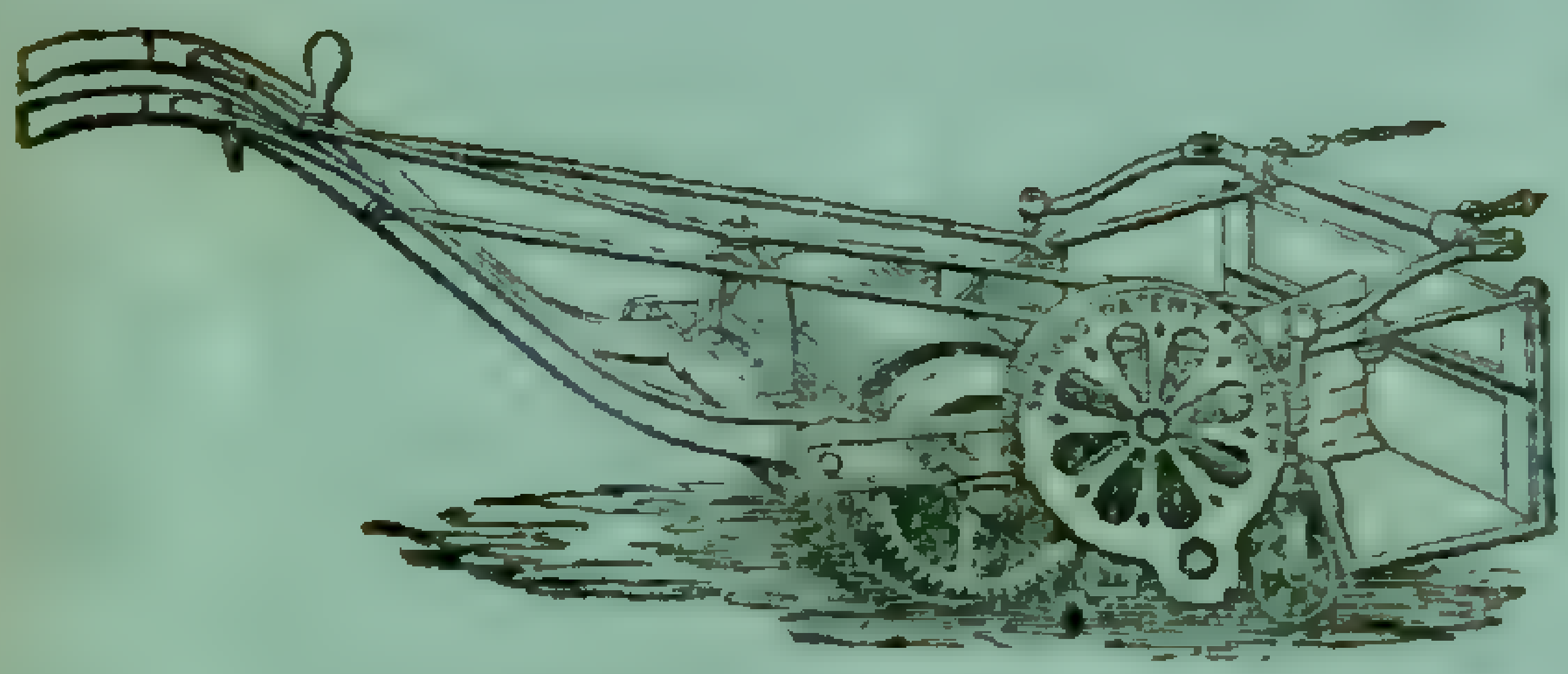

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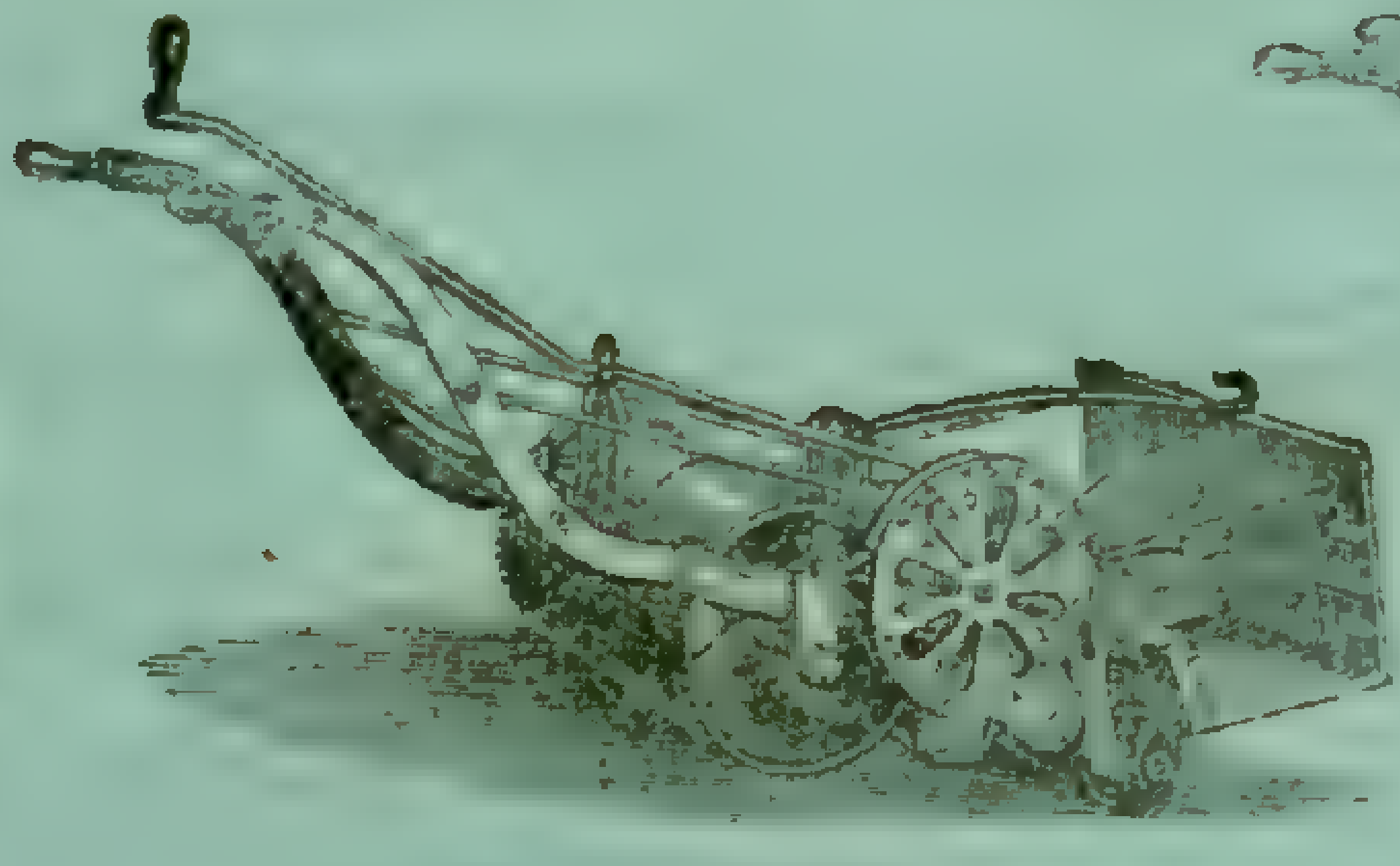

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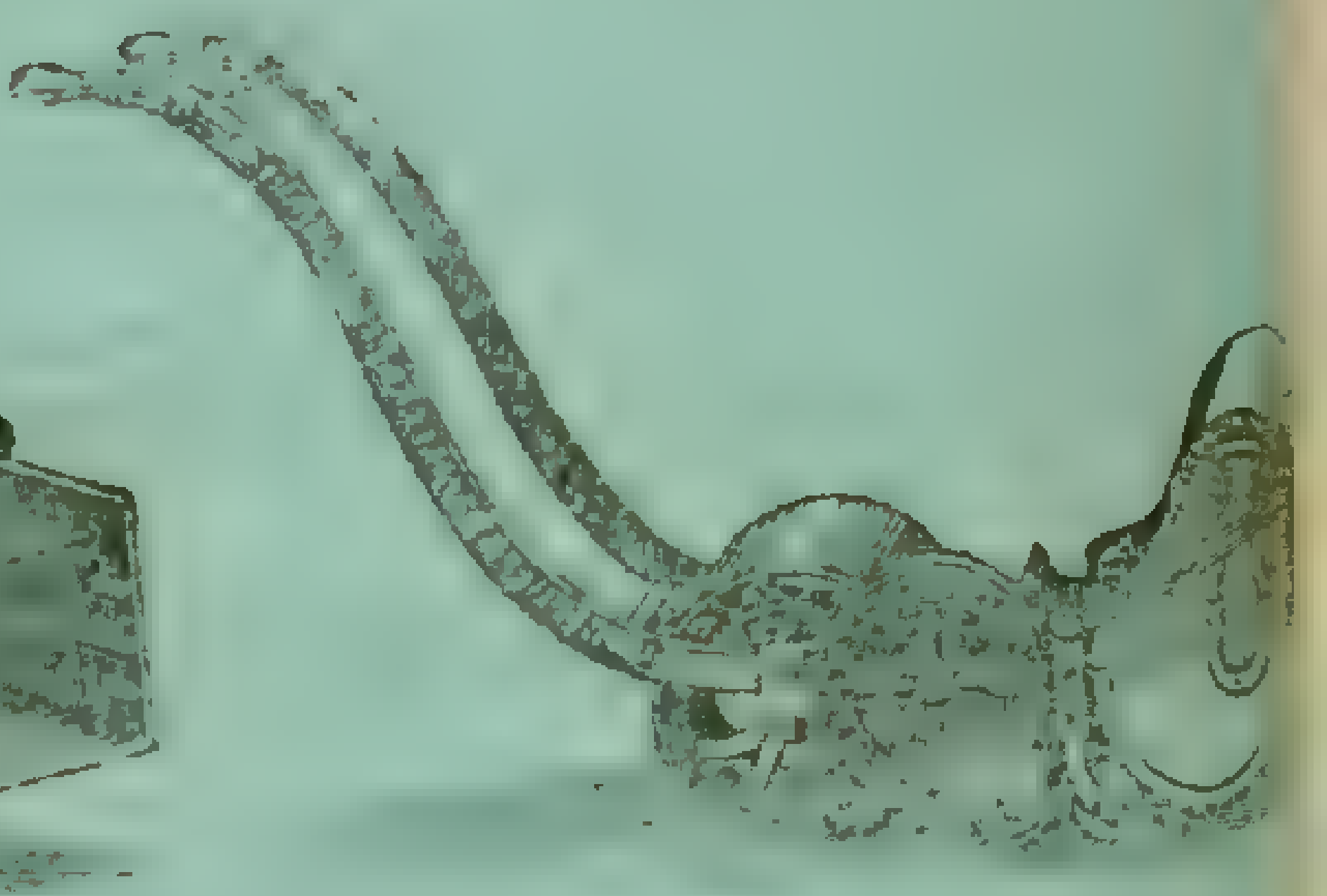

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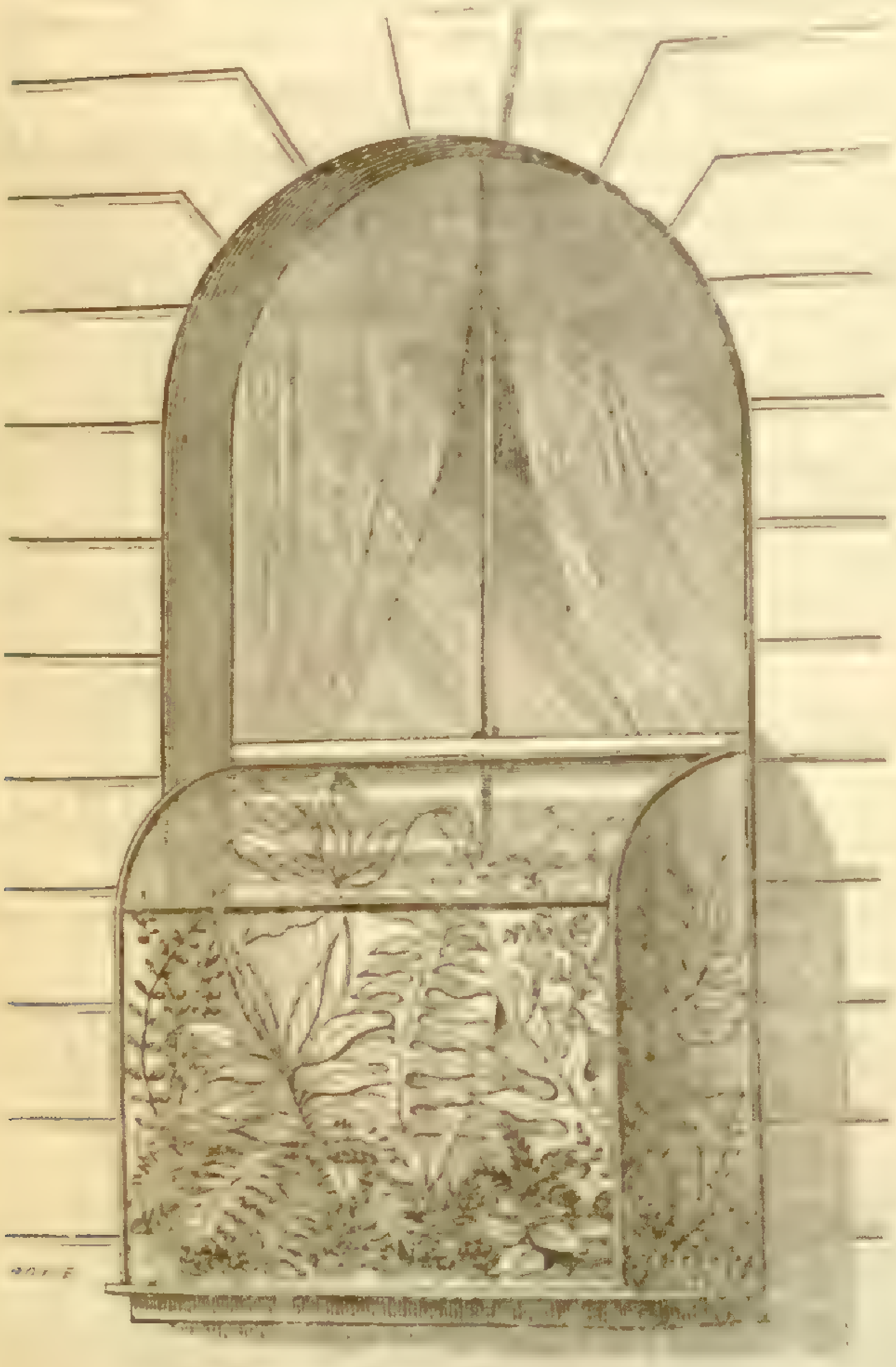

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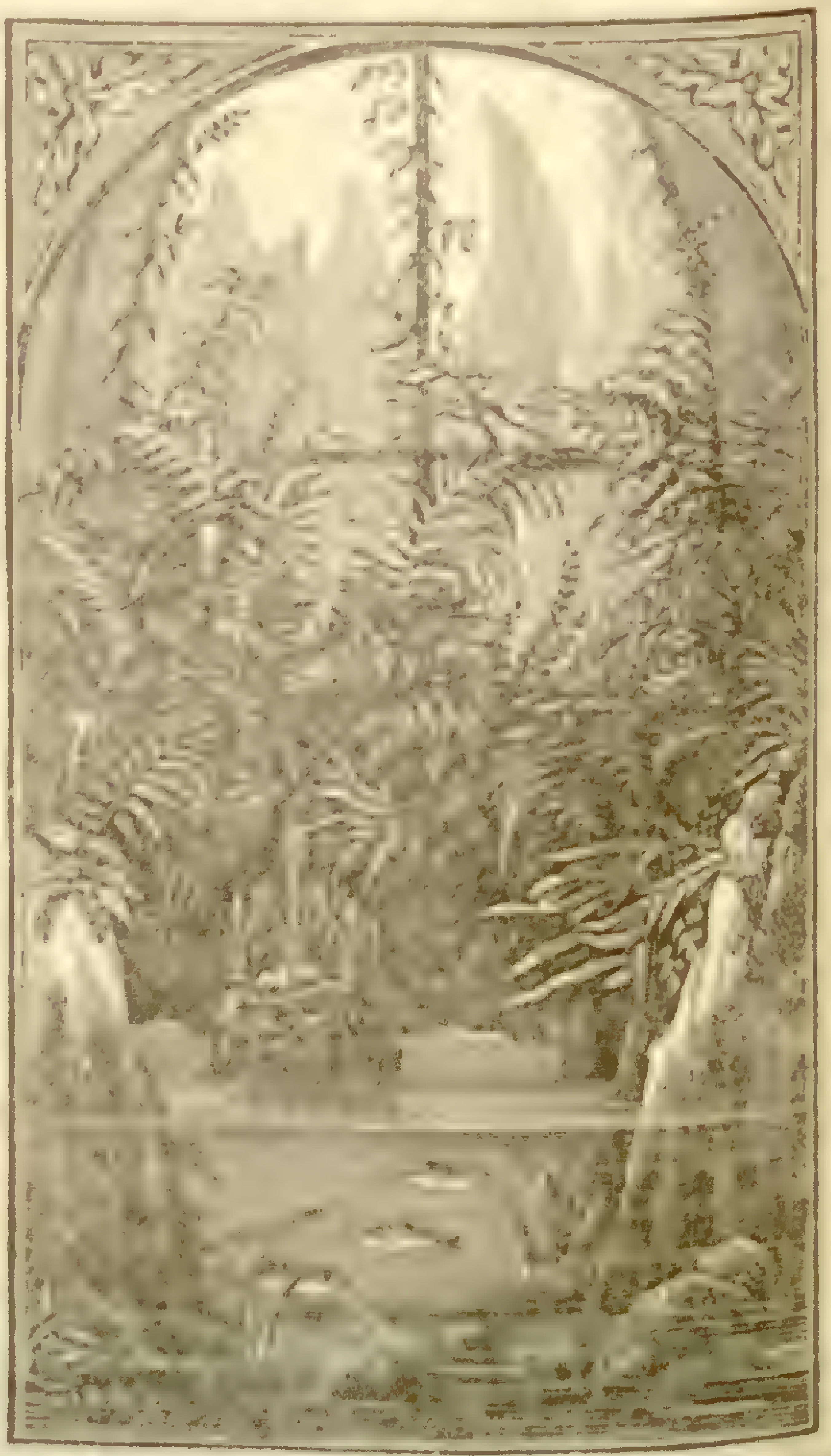

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W. Fitch, del et lith.

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TAB. 5623.

TAPEINOTES CAROLINÆ.

Empress Charlotte's Tapeinotes.

Nat. Ord. GESNERIACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. Calyx liber, inæqualis, 5-partitus. *Corolla* infundibuliformi-subringens, basi postice gibba, tubo antice interdum grosse ventricoso, fauce contracto, *limbi* erecti, labio superiore 2- inferiore 3-lobo. *Stamina* 4, didynama, et quinti rudimentum; *antheræ* cohærentes. *Discus* in glandulam posticam tumens. *Capsula* ovata, coriacea, 1-locularis, 2-valvis, *placentis* 2 parietalibus 2-lamellatis. *Semina* ∞, oblonga.—Herbæ Brasilienses, *subcarnosæ, caule basi tuberoso.* Folia *opposita v. subopposita, petiolata, subdentata.* Pedicelli 1–2-*axillares*, 1–2-*flori.*

TAPEINOTES *Carolinæ;* suffruticosa, foliis confertis oblongis oblongo-lanceolatisve acuminatis basi acutis crenato-serratis supra nitidis luride virescentibus subtus hirtis rubro-purpureis, pedicellis angulatis 1-floris infra calycem 5-alatis, sepalis foliaceis deltoideo-cordatis acutis marginibus recurvis undulatis, corolla alba calyce duplo longiore, tubo inflato hirsuto, lobis parvis suborbiculatis glabris, ovario hirsuto.

TAPEINOTES Carolinæ. *Wawra, Œstr. Bot. Zeitschrift,* 1862, *p.* 273, *cum ic.; Bot. Ergebn. Reise Maximil. p.* 72. *t.* 9.

A beautiful stove plant, introduced into this country by Mr. Bull, of Chelsea, from whose plant the accompanying drawing was made, in November, 1866. It was discovered during the Brazilian travels of his present Majesty the Emperor of Mexico (Maximilian I.) in 1859–60, and was introduced into the Imperial Garden of Schönbrunn (Vienna) and published by Dr. Henrich Wawra, who accompanied the expedition as surgeon and naturalist. It bears the name of the Empress of Mexico (Charlotte).

The other species of *Tapeinotes*, of which there are several, are all natives of Brazil and well worthy of cultivation, as indeed are most of the plants of the beautiful Order to which it belongs.

DESCR. A small undershrub. *Stem* and branches terete, red-brown, rather succulent. *Leaves* crowded towards the

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ends of the branches, opposite, four to six inches long, shortly petioled, oblong-lanceolate, acuminate, obtusely serrate, dark bluish-green and shining above, with sunk veins and scattered short hairs, bright red-purple and hairy below. *Peduncles* axillary, solitary, one-third as long as the leaves, angular, one-flowered, with two subulate bracts at the base. Calyx of five, large, leafy, triangular, cordate, acute, green sepals, with undulate, recurved margins. *Corolla* an inch and a half long, white; *tube* curved upwards, inflated and gibbous below, villous with long hairs; *mouth* contracted; *lobes* short, broad, rounded, glabrous. *Stamens* included; *anthers* cohering. *Ovary* villous.—*J. D. H.*

Fig. 1. Base of calyx and ovary:—*magnified.*

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W. Fitch, del et lith.

Vincent Brooks Imp.

Tab. 5624.

ANGRÆCUM CITRATUM.

Citron-yellow Angræcum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5589.)

Angræcum *citratum*; subacaulis, foliis confertis oblongo-lanceolatis acuminatis convexiusculis, scapo gracili pendulo, bracteis appressis obtusis nigris, floribus inter minores racemosis breviter pedicellatis pallide stramineo-albis, pedicellis teretiusculis, sepalis lateralibus obovato-spathulatis obtusis, dorsali multo minore arcuato porrecto, petalis sepalis majoribus breviter unguiculatis obovato-rotundatis, labello late unguiculato, lamina orbiculari emarginato-2-lobo, calcare labello duplo longiore flexuoso.

Angræcum citratum. *Pet. Thouars. Hist. Partic. Plant. Orchid. recueillies sur les trois îles d'Afrique, t.* 61.

A very curious and pretty little species, of which I find no record subsequent to the publication of Du Petit Thouars' work, cited above, and which was published in 1822, for, strange to say, it is omitted in Lindley's celebrated 'Genera and Species of Orchidaceous Plants.' The structure of the flower seems peculiar, owing to the small size of the dorsal sepal, as shown both in Thouars' and Mr. Fitch's drawings. I regret not having seen the living specimen, to confirm this character. The name is given in reference to the pale yellow (citron-coloured) flowers, which are scentless. The plant is a native of Madagascar, and was flowered by Messrs. Veitch, of the Royal Exotic Nurseries, Chelsea, in March, 1865.

Descr. *Stem* very short, half an inch long, sending out abundance of slender flattened aerial roots. *Leaves* few, close-set, three to four inches long, oblong-lanceolate, acuminate, contracted at the base, smooth, convex, and bright green above, paler below; midrib deeply sunk. *Scape* radical, with the flowering portion twice as long as the leaves, pendulous, very slender, with numerous short, sheathing,

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appressed, obtuse, black bracts. *Raceme* three to five inches long, slender, many-flowered. *Flowers* rather close-set, shortly pedicelled, three-quarters of an inch diameter, flat, pale straw-colour. Lateral *sepals* obovate-spathulate, obtuse, rather reflexed; dorsal very much smaller, arched over the column. *Petals* a little larger and much broader than the lateral sepals, orbicular, obovate, with short claws. *Lip* with an orbicular, emarginate, or two-lobed flat blade, and short broad claw. *Spur* about twice as long as the lip, flexuous, rather slender. —*J. D. H.*

Fig. 1. Portion of raceme and flower. 2. Column, lip and spur. 3. Pollen-masses, spur and gland:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5625.

IMPATIENS LATIFOLIA.

Broad-leaved Cingalese Balsam.

Nat. Ord. BALSAMINEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Flores irregulares, *Sepala* 3, rarissime 5, imbricata, 2 lateralia parva, sæpius viridia; *posticum* maximum, in calcar productum. *Petala* 3, anticum exterius concavum, lateralia 2-fida (e 2 coalitis composita); *lobo* superiore exteriore. *Stamina* 5, filamentis brevibus complanatis; *antheræ* circa stylum conniventes v. cohærentes, loculis introrsum dehiscentibus. *Ovarium* oblongum, 5-loculare; *stigma* sessile, 5-dentatum, v. stigmata 5, parva; *ovula* in loculis ∞, superposita, 1-seriata. *Capsula* 2–5-locularis, loculicide dehiscens; *valvis* 5, elastice desilientibus. *Semina* exalbuminosa.—Herbæ *nunc frutescentes, sæpius glabræ.* Folia *opposita alterna v. verticillata, exstipulata.* Pedunculi *axillares, rarius radicales,* 1–∞-*flori.* Flores *sæpe speciosi.*

IMPATIENS *latifolia;* erecta, glaberrima, foliis alternis rarius oppositis verticillatisve ovato-lanceolatis attenuato-acuminatis basi acutis argute serratis dentibus inferioribus setiferis, petiolo longe setoso, setis glanduliferis, pedicellis axillaribus solitariis 1-floris ebracteolatis, floribus majusculis pallide purpureis, sepalis lateralibus oblique oblongo-lanceolatis viridibus, labelli limbo concavo viridi, calcare gracili curvo, vexillo obcordato–2-lobo dorso cornuto, alis 2-partitis horizontaliter patentibus.

IMPATIENS latifolia. *Linn. Sp. Pl.* 1238. *Hook. f. and Thoms. in Journ. Linn. Soc.* iv. p. 124.

IMPATIENS cuspidata. *Wight and Arn. in Hook. Comp. Bot. Mag. v.* 1. *p.* 321. *Wight, Ic. t.* 741. *Thwaites, Enum. Pl. Ceylon, p.* 65.

IMPATIENS bipartita. *Arn. in Hook. Comp. Bot. Mag. l. c. p.* 322.

IMPATIENS floribunda. *Wight in Madr. Journ. Sc. v.* 5. *p.* 7.

Of the vast horde of Indian perennial Balsams, only two or three are actually in cultivation, whilst nearly a hundred, most of them highly ornamental, are yet to be introduced, and especially from the subtropical jungles of Ceylon, the western Ghauts, and the Himalaya. Amongst those of the first-named locality the present is a conspicuous instance, which we owe to our indefatigable correspondent G. H. K. Thwaites, F.R.S., who sent seeds from the Royal Gardens,

Peradenia, in the winter of 1865, plants from which flowered, in moderate heat, at Kew, in September, 1866. It belongs to a most puzzling group of this genus, in which the leaves are sometimes opposite or whorled, but more often alternate, and is most closely allied to, if not identical with, the *I. flaccida* of this work, Tab. 5276, differing chiefly in the broader leaves. Thwaites, indeed, refers *I. flaccida* to the Linnæan *I. latifolia*, but describes it as a decumbent plant, which does not accord with the habit of the original specimen in the Linnæan herbarium. Unfortunately the locality of the Linnæan specimen is unknown; it is marked as from the Cape of Good Hope, obviously erroneously, and has the spur bifid at the apex (an abnormal feature). Lastly, *I. flaccida*, according to Thwaites, is a lowland plant, ascending to an elevation of 3000 feet; whereas the present is a mountain species, occurring between 4000 and 7000 feet. It is also a native of the ghauts of Western India.

DESCR. A shrub, two to four feet high, much branched, quite glabrous. *Stems* terete, rather swollen at the joints. *Leaves* usually alternate, sometimes, especially in peninsular Indian specimens, opposite or whorled, petioled, very variable in size and shape, two to four inches long, ovate or ovate-lanceolate, acuminate, sharply serrate, lower serratures setigerous, as is the petiole. *Flowers* in solitary, one-flowered, axillary peduncles, one to two inches long, flat, an inch to an inch and three-quarters in diameter, pale purple. *Lateral sepals* small, green, oblong-lanceolate. *Lip* concave, green, with a long, slender spur. *Upper petal* deeply two-lobed, with a green horned keel at the back. *Wings* spreading, upper lobe largest, emarginate, all obtuse.—*J. D. H.*

Fig. 1. Upper limb of ovary:—*magnified.*

W. Fitch, del. et lith

Vincent Brooks, Imp

TAB. 5626.

CLAVIJA FULGENS.

Brilliant-flowered Clavija.

Nat. Ord. MYRSINEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx profunde 5-fidus, laciniis obtusis imbricatis. *Corollæ tubus* brevis; *lobi* 5, fauce in appendices 5 carnosas cum lobis alternantes tumente. *Stamina* 5, filamentis brevissimis liberis v. connatis; *antheræ* extrorsum dehiscentes, sæpe in capitulum conniventes. *Ovarium* 1-loculare; *stylus* brevissimus, stigmate brevi 2-lobo; *ovula* pauca placentæ parvæ basilari inserta. *Bacca* globosa, oligosperma. *Semina* placentæ globosæ affixa, umbilico ventrali, *testa* mucilaginosa. *albumine* corneo; *embryo* excentricus, cotyledonibus ovatis planis, radicula infera.—Frutices *Americæ tropicæ;* caule *simplici, apice folioso.* Folia *alterna, coriacea.* Racemi *axillares.* Flores *inter minores, abortu unisexuales, albi flavi v. aurantiaci.*

CLAVIJA *fulgens;* foliis breviter petiolatis, elongato-obovato-lanceolatis obtusis v. subacutis supra medium remote dentatis, costa valida, nervis inconspicuis, racemis erectis robustis multi-densifloris, floribus majusculis erecto-patentibus rubro-aurantiacis, pedicellis brevibus crassis, calycis lobis ciliolatis, corollæ lobis orbiculatis, glandulis subrotundis, filamentis liberis, antheris subquadratis flavis, connectivo crasso.

The beautiful plant here figured, and which flowered in the Royal Gardens in September of last year, is stated to have been received about eighteen years ago, but I can find no record of either its native country or donor, except that it may possibly have been raised from seeds sent from Lima, in Peru, by the late Mr. M'Lean, an old correspondent of the Gardens. Its congeners, of which a dozen or so are well described, are all South American, extending from Brazil to Panama, and down the Andes on the west coast to Peru, but amongst them all I find none, either in our herbarium or books, that equals this for the size and colour of its flowers. As a stove plant it is easily managed, flowers freely, and having the habit of the genus in foliage, etc., it forms a very strikingly ornamental plant.

DESCR. *Trunk* erect, in our plant about four feet high, very

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stout, three-quarters of an inch in diameter, with scattered subulate scales towards the top. *Leaves* ten to fourteen inches long, three to five inches broad, very narrowly obcuneate-spathulate, obtuse or subacute, narrowed into the very short stout petiole, remotely toothed towards the apex, dark-green, very coriaceous; *nerves* obscure; *midrib* very stout. *Racemes* erect, four to five inches long, an inch and a half in diameter, rachis entirely hidden by the densely crowded flowers. *Pedicels* very short, stout, glabrous. *Base of calyx* turbinate; *lobes* orbicular, minutely ciliated. *Corolla* half an inch to two-thirds of an inch in diameter, deep orange-red, yellow in the disk; *lobes* rounded, with very tumid subhemispherical glands. *Stamens* small, sunk between the glands of the petals; *filaments* short, stout, free; *anthers* subquadrate; *cells* recurved at the base on the very thick, subquadrate, swollen connective. *Ovary* with a short conic style and capitate stigma.—*J. D. H.*

Fig. 1. Flower. 2. Calyx and ovary. 3 and 4. Stamens:—*all magnified.*

5627.

W Fitch del et lith

Vincent Brooks Imp

TAB. 5627.

MESOSPINIDIUM SANGUINEUM.

Rosy Mesospinidium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Perigonium subcarnosum, clausum. *Sepalum* summum lanceolatum; *sepala* lateralia connata, apice bifida, laciniâ utrâque lanceâ, basi subsaccato labello suppositâ; *petala* triangulo-lanceolata, acuta, sepalis basi vix imbricantibus. *Labellum* cuneatum, obcordatum, limbo revoluto, carinæ duæ, unguem marginantes, eboraceæ, nunc antice lobatæ canalem velutinum inter se linquentes, lamellâ bilobâ depressâ antepositâ, subimmobile. *Columna* semiteres,anticè profunde excavatum. *Androclinii* limbus utrinque dependens; rostellum ascendens, acuto-triangulum, bicuspidatum. *Anthera* unilocularis, anticè retusa, medio cuspidata. *Pollinia* globosa, posticè minutè perforata. *Caudicula* linearis, basi latior; glandula lancea. *Character ex Rchb. Walp. Annales*, v. *p*. 6.

MESOSPINIDIUM *sanguineum;* pseudobulbis ovalibus compressis nebulosis diphyllis, foliis cuneato-ligulatis acutis, racemis secundis, ramosis foliis longioribus, bracteis squamæformibus minutis, sepalis oblongis acutis, lateralibus medium versus bifidis, sepalis cuneato-ovato-acutis, labello lingulato acuto, lateribus erectis, carinâ lineari per disci basin superiorem apice sc. medio labello divergenti bicruri, androclinio minute lobulato.

MESOSPINIDIUM sanguineum. *Rchb. fil. Walp. Annales, l. c.*

A very pretty plant, with nodding racemes in the way of those of *Rodriguesia secunda*, but larger and handsomer. Unlike the latter species, which is found abundantly at the embouchure of the Amazon river, and which therefore luxuriates in a great degree of heat and moisture—this *Mesospinidium* is met with at a great elevation, and consequently in a cool climate, among the Peruvian and Quitensian Andes. whence descend some of the largest tributaries of that most magnificent of all streams. Although discovered by Jameson more than twenty years ago, and subsequently met with by Warscewicz, it does not appear to have ever reached this country alive before the year 1866, when plants of it were received in excellent condition from Ecuador, by the Messrs.

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Backhouse, of York, who exhibited a flowering specimen of it—from which the Plate was derived—at one of the Tuesday meetings at South Kensington in November last. It appears quite at home in what may conveniently be termed the "Peruvian house," as meant to include the coolest and dampest section of temperate Orchids, while the "Mexican house" would indicate a climate somewhat warmer and drier than the last, but still cool.

As a genus, *Mesospinidium* comes near to *Odontoglossum*, from which a superficial observer might fail to distinguish it. Professor Reichenbach—the founder of the genus—would also make it embrace the genera 'Ada' and 'Abola' of Lindley, a view in which I find myself at present unable to concur.

Descr. An epiphyte, with compressed, prettily-mottled oval two-leaved *pseudobulbs*. *Leaves* ligulate, sharp-pointed, shorter than the many-flowered drooping slightly-branched *flower-stem*. *Bracts* minute, scale-like. *Sepals* oblong, acute, the side ones joined at the base—for more than half their length. *Petals* cuneate, ovate, acute, of a firm waxy substance, and (like the sepals) of a uniform warm rosy tint. *Lip* lingulate, sharp-pointed, its sides erect, its middle lobe recurved, with a two-limbed diverging process at the base. The lip at its point is of the same rosy tint as the sepals and petals, but fades into white in its lower portion. *Column* white, slightly lobed.—*J. Bateman.*

Fig. 1. Side view of lip and column. 2. Front view of lip. 3. Ditto of column. 4. Pollen-masses:—*magnified.*

5628.

W Fitch, del et lith

Vincent Brooks, Imp

TAB. 5628.

BARLERIA GIBSONI.

Dr. Gibson's Barleria.

Nat. Ord. ACANTHACEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. Calyx 4-partitus, laciniis cruciatim oppositis, supera et infera plerumque majoribus. *Corolla* regulariter infundibuliformis v. hypocraterimorpha, 5-loba, ore dilatato, laciniis imbricatis, superiore plerumque breviore. *Stamina* 2, cum staminodiis 2-3 v. 4, didynama, circa basin tubi inserta. *Antheræ* oblongæ v. lineares, 2-loculares, loculis parallelis muticis. *Stigma* v. infundibuliforme, compressum, truncatum, limbo integro, v. angustum, oblique 2-fidum. *Capsula* circa basin fere 2-locularis, septo integro adnato, basi 2-4-sperma. *Semina* retinaculo suffulta.—*Herbæ v. frutices, ramosæ.* Inflorescentia *spicata axillaris v. solitaria.* Calyx 2-*bracteolatus.*

BARLERIA *Gibsoni;* fruticosa, glaberrima, foliis ovato- v. oblongo-lanceolatis acuminatis in petiolum brevem angustatis, margine minute ciliolatis, floribus subterminalibus paucis vix spicatis, bracteis parvis anguste ovatis, calycis foliolis exterioribus anguste subulatis interioribus elliptico-oblongis obtusis subacutisve viridibus, exterioribus duplo longioribus multotiesque majoribus, corollæ pallide purpureæ tubo infundibuliformi calycem æquante, limbi lobis subæqualiter rotundatis 2 inferioribus medio macula saturatiore notatis, ore pallido, staminibus 2 cum staminodiis 3 parvis subulatis.

BARLERIA Gibsoni. *Dalzel in Hook. Kew Journn. Bot. v.* 2. *p.* 339.

It has already been remarked in this work, that the hitherto much neglected Order *Acanthaceæ* abounds in beautiful garden plants, which, from their habit of flowering in winter, are especially desirable for stove cultivation in this climate. Such is the subject of the present Plate, a native of the Ghauts of Central India, for seeds of which the Royal Gardens are indebted to Dr. Anderson, of the Royal Gardens, Calcutta, which flowered at Kew in December, 1866. Handsome as it is, it falls very far short indeed of some of its congeners, also natives of the Western Indian Ghauts, and of which one, *B. grandiflora*, Dalzel, has leaves a span long, and spikes of flowers, whose corollas are four to four and a

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half inches long by two inches diameter. The genus is a large one, and contains very many beautiful species.

Descr. A small, quite glabrous *shrub;* our first year's plants are twelve to eighteen inches high, but will probably attain three or four feet. *Stems* branched, shrubby, terete. *Leaves* two to four inches long, shortly petioled, lanceolate or oblong or ovate-lanceolate, acuminate, rather rough at the margin, coriaceous, glaucous below; nerves distinct, running very obliquely. *Flowers* in very short terminal spikes, or axillary in the uppermost leaves. *Calyx* one and a half inch long; outer *sepals* very narrow subulate, not half the length of the inner, which are oblong, obtuse, convex, nerved. *Corolla* large, pale purple; *tube* as long as the calyx, funnel-shaped, paler; *lobes* spreading, orbicular, each one-third of an inch in diameter, inner rather smaller, two upper with a dark purple blotch in the centre. *Stamens* two, with three staminodes; *filaments* glabrous; *anthers* oblong, purple. *Stigma* narrow, very obliquely bifid.—*J. D. H.*

Fig. 1. Calyx,—*nat. size.* 2. Base of corolla and stamens. 3. Germen:—*magnified.*

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SHANKS' NEW PATENT LAWN MOWERS FOR 1867.

Patronized on Five occasions, during the Season of 1864, *by*

HER MAJESTY THE QUEEN,

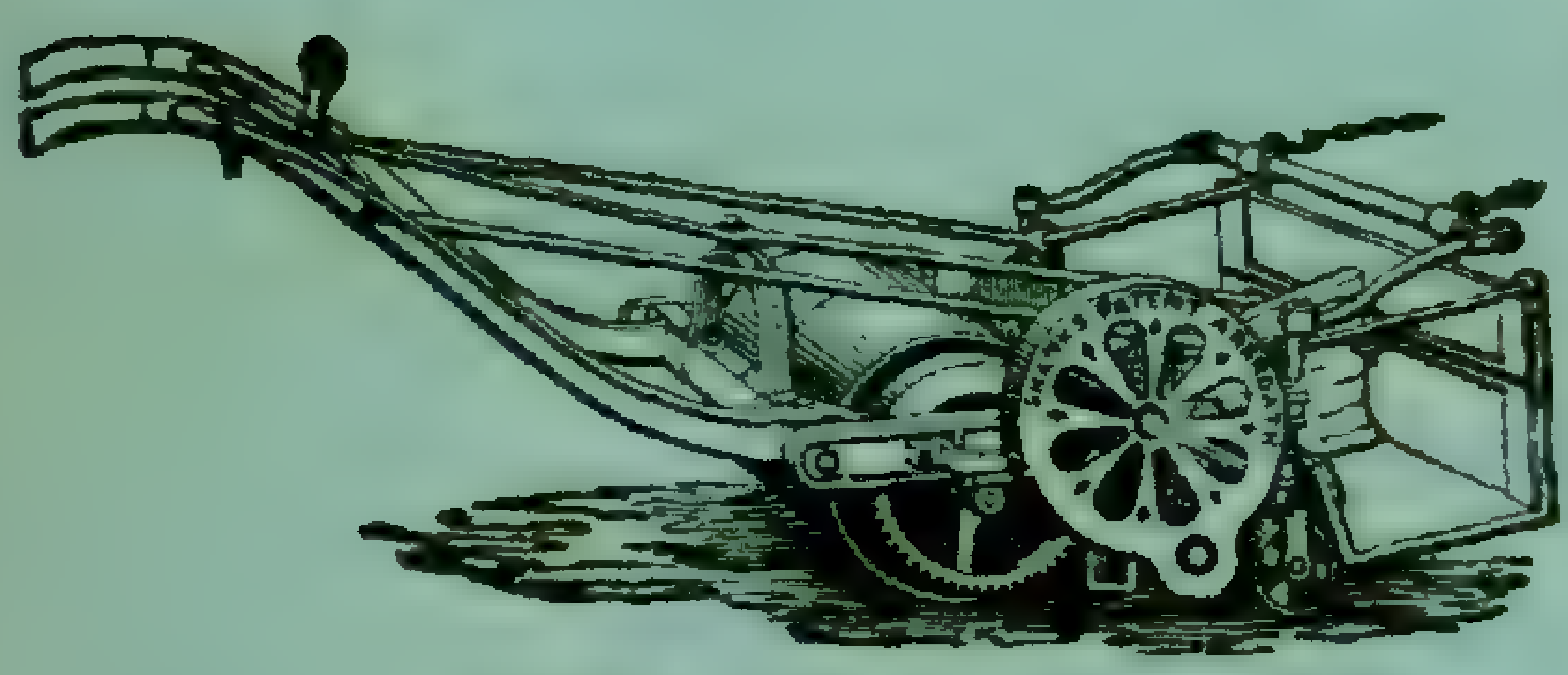
AND ONCE BY HIS MAJESTY THE KING OF SAXONY;

DURING THE SEASON OF 1865 THEY WERE PATRONIZED ON FOUR OCCASIONS BY HER MAJESTY THE QUEEN;

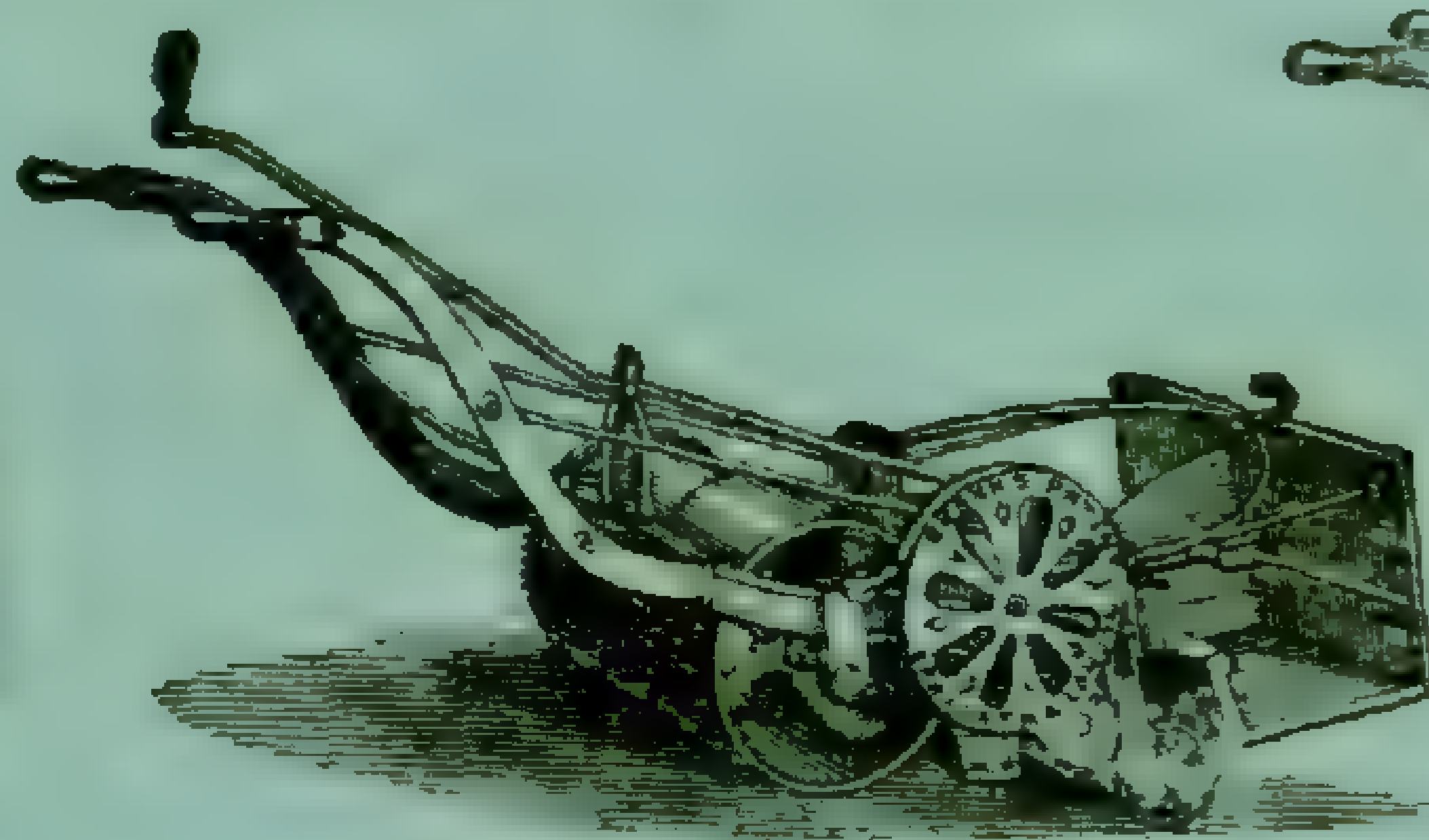
ONCE BY HIS MAJESTY THE KING OF HOLLAND;

AND ONCE BY HIS MAJESTY THE KING OF PRUSSIA;

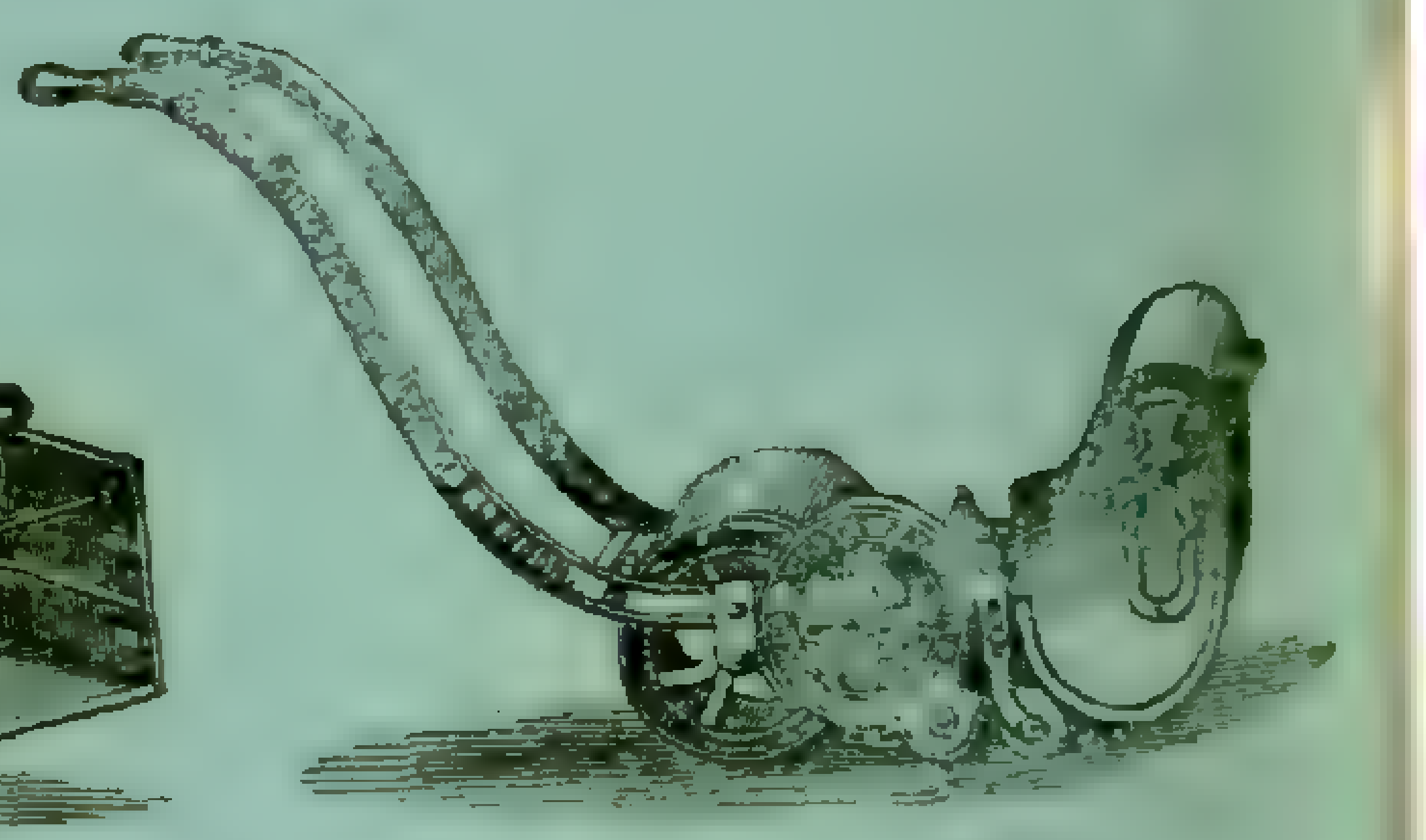
AGAIN, DURING THE SEASON OF 1866, THEY WERE PATRONIZED ON FOUR OCCASIONS BY HER MAJESTY THE QUEEN.



HORSE MACHINE.



PONY MACHINE.



HAND MACHINE.

ALEXANDER SHANKS & SON, in presenting their LAWN MOWERS for the Season of 1867, are gratified to be able to state that the demand for their celebrated Machines rapidly increases every year. The success which attended SHANKS' Machines during last Season is quite unparalleled in the history of the Lawn Mower.

A. S. & SON can confidently assure their numerous Friends and Customers and the Public generally that their endeavour will always be to supply a Machine, first-class in every way, one which cannot be surpassed if even equalled, whether for simplicity of construction, ease in working, or durability. None but the best materials and skilled workmen are employed in the manufacture of their Machines.

PRICES—Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

SHANKS' NEW PATENT HAND MACHINE FOR 18.

10-inch Machine	£3	10	0	*Easily worked by a Lady.*
12-inch Machine	4	10	0	
14-inch Machine	5	10	0	*Do. by a Boy.*
16-inch Machine	6	10	0	*Do. by a Man.*
19-inch Machine	£7	12	6	*Do. by a Man and a Boy.*
22-inch Machine	8	7	6	*Do. by Two Men.*
24-inch Machine	8	17	6	

Silent Movement for the four smallest sizes, 4*s.* extra; for the other sizes, 7*s.* 6*d.* extra.

SHANKS' NEW PATENT PONY & DONKEY MACHINE.

Width of Cutter.				If with Patent Delivering Apparatus.
25-inch Machine	£12	10	0	25*s.* extra.
28-inch Machine	14	10	0	30*s.* extra.
30-inch Machine	15	15	0	30*s.* extra.

Silent Movement, 12*s.* 6*d.* extra.

SHANKS' NEW PATENT HORSE MACHINE.

Width of Cutter.				If with Patent Delivering Apparatus.
30-inch Machine	£19	0	0	30*s.* extra.
36-inch Machine	22	0	0	30*s.* extra.
42-inch Machine	26	0	0	40*s.* extra.
48-inch Machine	28	0	0	40*s.* extra.

Silent Movement, 20*s.* extra.

SHANKS' PATENT LAWN MOWERS cut the Grass on uneven as well as on level Lawns; and it is quit immaterial whether the Grass be *wet or dry.*

Every Machine warranted to give ample satisfaction, and if not approved of, can be at once returned.

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MANUFACTORY, DENS IRONWORKS, ARBROATH.

A. S. and SON keep a Stock of Lawn Mowers at 27, Leadenhall Street, London, from which Orders can b at once executed. They also have at their London Warehouse a staff of experienced Workmen thoroughl acquainted with all the details of these Machines, so that they are enabled to repair Lawn Mowers i London as well as at the Manufactory.

GOOD SEEDS, CARRIAGE FREE.

SUTTON'S UNRIVALLED COLLECTIONS OF SEEDS FOR ONE YEAR'S SUPPLY.

SUTTON AND SONS

ARE NOW PREPARED TO RECEIVE ORDERS FOR THE ABOVE,
THE PRICES OF WHICH ARE AS FOLLOWS:—

FOR THE KITCHEN GARDEN.

	£.	s.	d.
No. 1. Complete Collection for 1 year's supply	3	3	0
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The very best and earliest in cultivation, Price 2*s.* per Quart.

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Is now ready, and will be sent post-free on receipt of Twelve Stamps. GRATIS TO CUSTOMERS.

SUTTON'S FINE LAWN GRASS SEEDS,

As used in the principal Lawns and Pleasure-Grounds in the Country. 1*s.* 3*d.* per pound, 24*s.* per bushel, carriage free.

All Goods Carriage Free (except very small parcels). 5 per cent. discount allowed for cash payment.

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GENUINE SEEDS, CARRIAGE FREE.

B. S. WILLIAMS'

NEW GENERAL PRICED AND DESCRIPTIVE SEED CATALOGUE

FOR 1867

CAN BE HAD FREE ON APPLICATION.

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Contains LISTS of the best varieties of each kind of VEGETABLE. Only those sorts are recommended that can be relied upon for producing sure and good crops. Especial attention is directed to the following NEW and CHOICE KINDS, full descriptions of which will be found in the Catalogue.

WILLIAMS'S ALEXANDER BROCCOLI, 2*s.* 6*d.* per packet.
WILLIAMS'S MATCHLESS RED CELERY, 1*s.* per packet.
ORANGEFIELD DWARF TOMATO, 2*s.* per packet.
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DIGSWELL PRIZE ENDIVE, 1*s.* per packet.
RAPHANUS CAUDATUS (The Wonderful Radish), 1*s.*, 2*s.*, and 5*s.* per packet.

COMPLETE COLLECTIONS of KITCHEN GARDEN SEEDS, to suit Gardens of various sizes, for Contents of which see page 44 in Catalogue:—

10s. 6d., 21s., 42s., 63s., 84s. each.

THE FLOWER SEED PART

Contains Imported and English-grown FLOWER SEEDS in Collections.
The Best of the New Introductions, 1866, in ANNUALS, BIENNIALS, and PERENNIALS.
Choice Strains of FLORISTS' FLOWERS.

The following are unequalled:—

PRIMULA (WILLIAMS's superb strain, the finest in cultivation).—Red, White, or Mixed Seed, 2*s* 6*d.*, 3*s.* 6*d.*, and 5*s.* per packet.

CALCEOLARIA (JAMES's strain, the best variety for exhibition).—Colours are exceedingly rich, profusely spotted and veined, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* per packet.

BALSAM (WILLIAMS's finest strain).—A stand of flowers, the production of this strain, was exhibited at the July Show of the Royal Botanic Society, and was the admiration of all. 1*s.* and 2*s.* 6*d.* per packet.

CINERARIA (WEATHERILL's extra choice strain).—This is the most popular strain in Covent Garden Market. 3*s.* 6*d.* and 5*s.* per packet.

LILIUM AURATUM (a large importation of this beautiful Lily just received).—Strong Bulbs, 3*s.* 6*d.*, 5*s.*, 7*s.* 6*d.*, and 10*s.* 6*d.* each.

VICTORIA AND PARADISE NURSERIES, UPPER HOLLOWAY, LONDON, N.

NEW ROSES FOR 1867.

JOHN FRASER,

OF THE LEA BRIDGE ROAD NURSERIES, N.E.,

HAS MUCH PLEASURE IN ANNOUNCING THAT HIS

DESCRIPTIVE LIST OF CAREFULLY SELECTED NEW ROSES FOR 1867

IS NOW READY, AND WILL BE FORWARDED ON APPLICATION.

☞ *The Plants are this Season unusually strong and healthy.*

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EDGINGTON'S RICK CLOTHS for Sixty-two Years have maintained their celebrity the best.

EDGINGTON'S MARQUEES and GARDEN TENTS are the prettiest.

EDGINGTON'S MARQUEES, for hire, are the most handsome and capacious.

HAYTHORN'S and WALLER'S NETTINGS. Samples and material free on application.

Be particular—FREDERICK EDGINGTON and CO., Thomas Street, Old Kent Roa London, S.E.

A Liberal Discount to the Trade!

International Exhibition, 1862, Class XIX. Honourable Mention.

For Conservatories, Greenhouses, Orchard Houses, and Pits,

Where Bedding Plants are kept during the Winter, the best and cheapest means to rep the Frost is

HAYS'S PATENT CONSTANT STOVE, which requires no Flue, is Cleanly, Portable, an Economical, requires attention only once in twelve hours, ensures a regular and consta heat at a trifling cost, and fully supplies a want long felt by every class of gardener.

Price 30*s.*, 60*s.*, and 80*s.* each. The Patent Fuel supplied in Bags containing two bushe price 1*s.* 10*d.* per bushel. Bags charged 9*d.* each, and allowed for if returned.

These Stoves are also eminently adapted for Churches, Halls, Hospitals, Offices, Shops, Wi Cellars, Coach Houses, Harness Rooms, etc. etc., and can be made on the same principle to a size or design.

Particulars, Testimonials, and Reports, from Professor Pepper, Mr. Thomas Rivers, and oth reliable authorities, free, from HENRY BAKER, 17, Harp Lane, Great Tower Street, Londo sole Agent for Stoves and Fuel.

EVERY GARDEN REQUISITE KEPT IN STOCK

AT

CARTER'S GREAT LONDON SEED WAREHOUSE,

237 AND 238, HIGH HOLBORN, LONDON, W.C.

GROOM'S CHOICE NEW ZONAL GERANIUMS.

'MISS MARTIN,' beautiful soft rosy peach; 'SIR FITZROY KELLY,' striking scarlet-cerise; 'FLORIBUNDA ALBA NANA,' dwarf white. Pronounced to be the finest varieties ever raised, as bedders or for pot culture. To be sent out in the Spring (1867)

BY ROBERT WARD, THE ROSERY, IPSWICH.

The set of three Strong Autumn-struck Plants, 10*s.* 6*d.*

Usual Discount to the Trade when not less than three Sets are taken.

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LEADING VARIETIES ONLY.

Geranium Tricolor, 2*s.* 6*d.* and 5*s.* per packet.
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NEW CATALOGUE for 1867, of TRICOLOR, BICOLOR, and ZONALE GERANIUMS, *NEW ROSES of* 1867, *with other NEW PLANTS, is now ready, and may be had on application.*

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MARQUEE, TENT, RICK-CLOTH, AND FLAG MANUFACTURER,

BY SPECIAL APPOINTMENT TO HER MAJESTY
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MARQUEES & TENTS FOR HORTICULTURAL SHOWS

FOR SALE OR HIRE.

Rick Cloths, New and Second-hand, with Poles, etc., complete.

Tanned Netting for Fruit Trees, New and Repaired Scrims for Greenhouse Blinds, Frigi domo, Garden Mats, etc.

An Illustrated Catalogue Free by Post.

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Perfect Freedom from Coughs in 10 Minutes after use,
And Instant Relief and a Rapid Cure of
ASTHMA, CONSUMPTION, INFLUENZA, COUGHS, COLDS,
And all Disorders of the Breath, Throat, and Lungs,
are ensured by

DR. LOCOCK'S PULMONIC WAFERS

Which have a most agreeable taste.

CURES OF ASTHMA AND COUGHS.

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"In allaying any irritation of the chest or lungs, checking all disposition to coughing, and promoting that inestimable boon, a comfortable night's refreshing sleep, they certainly stand unrivalled.—J. H. EVANS, Druggist."

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INDIGESTION AND BILE.

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EXCELSIOR WAFERS.

It acts promptly, tastes delightfully, and requires no restraint in diet or habits.

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BARR AND SUGDEN'S GUIDE
TO THE KITCHEN AND FLOWER GARDEN FOR 1867.
IT EMBRACES EVERY NOVELTY AND SPECIALITY WORTHY OF NOTICE IN
FLOWER AND VEGETABLE SEEDS.

INTENDING PURCHASERS
WILL BE PRESENTED WITH COPIES ON SENDING THEIR ADDRESSES.

COLLECTIONS OF VEGETABLE SEEDS	COLLECTIONS OF FLOWER SEEDS
Sent Carriage Paid.	Sent Post Paid.
21/., 30/., 42/., 63/., 84/., 105/., to 210/.	**3/6, 5/6, 7/6, 10/6, 15/., 21/., 42/., 63/., 84/., 105/., to 210/.**
Smaller Collections made up if required.	

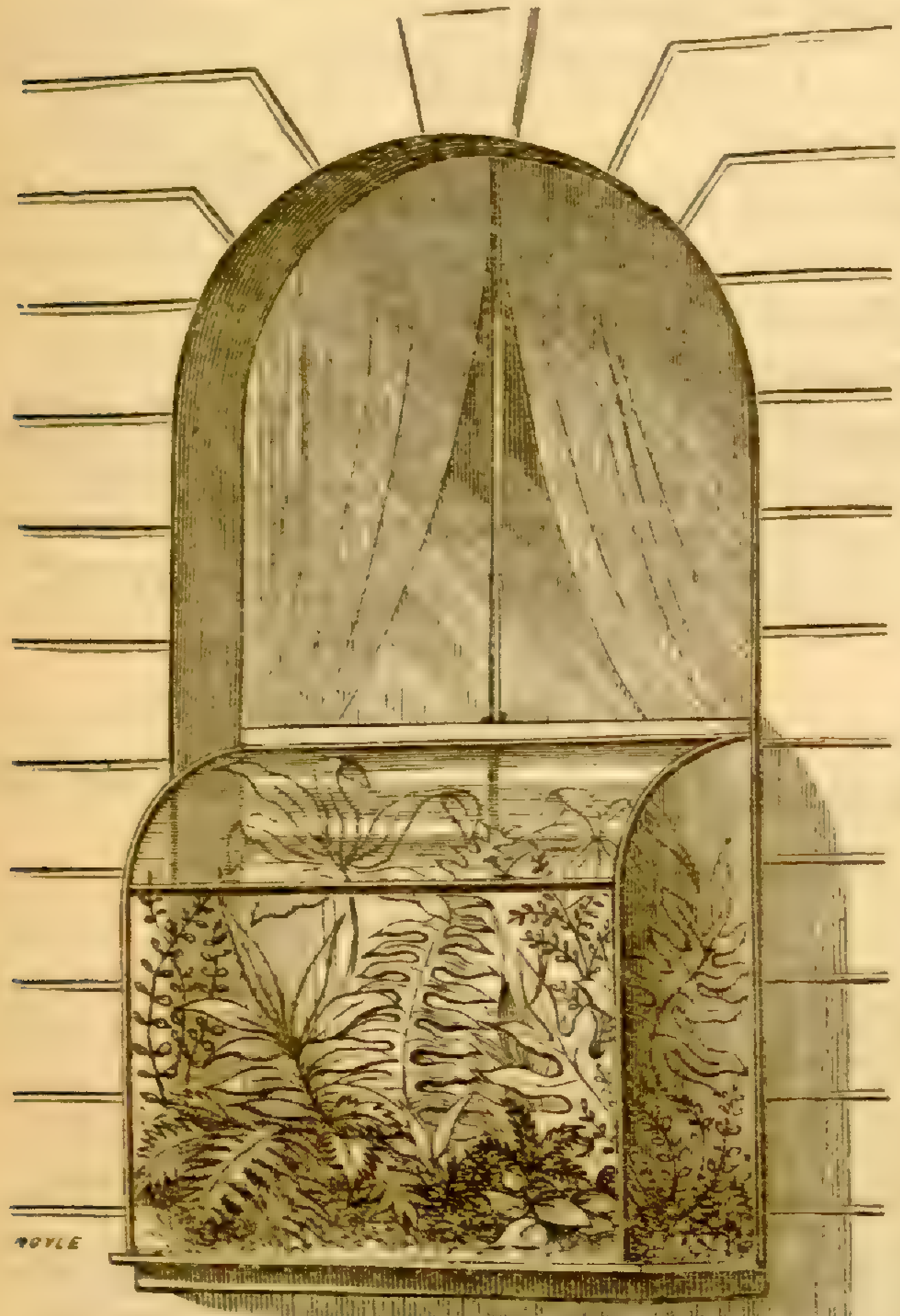
For full particulars of these Collections see the Guide.

BARR & SUGDEN'S WINDOW CONSERVATORIES & WINDOW FERNERIES
OF VARIOUS STYLES.

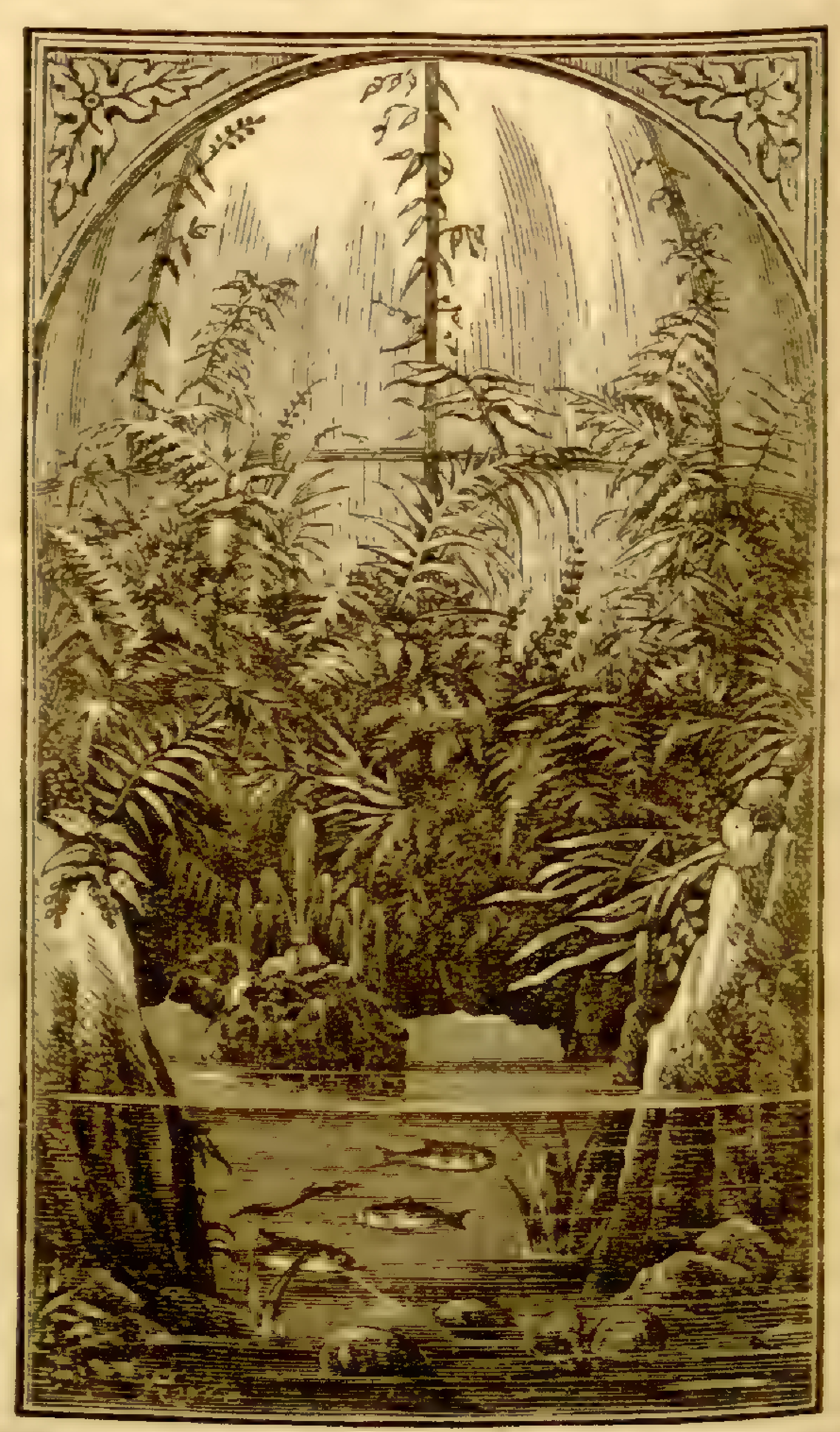
The present Illustrations are part of a series which B. & S. have fitted up. The introduction o these elegant structures is a great boon, especially in large towns. Window Conservatories (Illustrated) being constructed generally in the front of the house, give increased elegance to th façade, and contribute to the retirement of the interior. Plants in bloom may be conserved i these for a longer period than if they were exposed to the drier atmosphere of the room, or fer may be successfully grown in them; indeed they may be made an interesting source of recreati throughout the year.

Window Ferneries, which can be constructed with or without an Aquarium and Fountain, a are used principally on defectively lighted staircases, or to replace windows that have stained glas They are also used in rooms where the prospect is objectionable; and as they abut some little di tance outwardly, in addition to the refreshing nature of the green foliage, and abating no whit the light, they give an enlarged appearance to the apartment.

WINDOW CONSERVATORY.

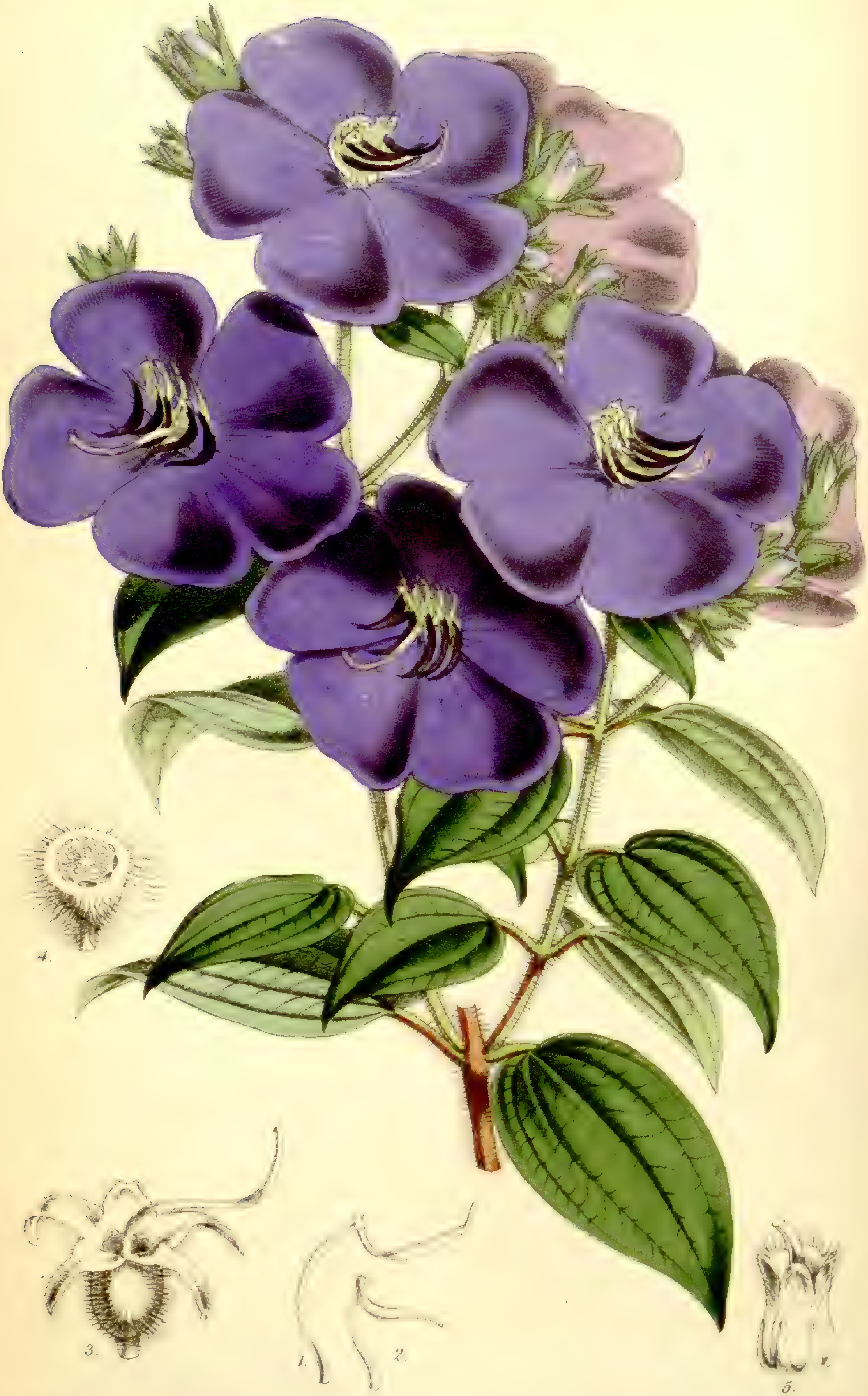


WINDOW FERNERY.



BARR AND SUGDEN, 12, KING STREET, COVENT GARDEN, W.C.

5629.



W Fitch del et lith

Vincent Brooks imp

Tab. 5629.

PLEROMA sarmentosa.

Sarmentose Pleroma.

Nat. Ord. Melastomaceæ.—Decandria Monogynia.

Gen. Char. Calycis tubus paleaceus hirsutus v. strigosus, ovoideus campanulatus v. elongatus; lobi 5, subulati lanceolati v. oblongi, decidui. *Petala* 5, obovata, sæpe inæquilatera et retusa. *Stamina* 10, æqualia v. subæqualia, filamentis glabris pilosis v. glandulosis; antheræ consimiles, lineari-subulatæ, arcuatæ, connectivo basi breviter v. longius producto antice 2-tuberculato inappendiculato. *Ovarium* liberum v. basi costis 5 calyci adhærens, vertice hispidum v. setosum, 5-loculare; stylus filiformis, curvus, glaber v. pilosus, stigmate punctiformi. *Capsula* 5-valvis, calyce inclusa. *Semina* cochleata.—Frutices *et* suffrutices, *rarius* herbæ, Americæ australis *tropicæ et subtropicæ incolæ, interdum scandentes, sæpius hispidæ v. strigoso-hirsutæ.* Folia *petiolata, ovata v. oblonga, integerrima.* Flores *sæpissime paniculati, purpurei v. violacei.*

Lasiandra *sarmentosa;* fruticulus patentim villosus, ramis ramulisque sarmentosis, foliis breviter petiolatis ovatis ovato-oblongisve acutis basi rotundatis cordatisve 7-nerviis utrinque pilosis, paniculis 3-chotomis terminalibus paucifloris, pedicellis brevibus, calycis tubo obovoideo v. subgloboso dense tomentoso, lobis subulato-lanceolatis recurvis tubo longioribus, petalis late cuneato-obovatis violaceis, filamentis glabris, antheris majoribus connectivo basi producto basi 2-tuberculato, minoribus connectivo breviore 2-tuberculato, ovarium ad medium calyci costis 5 adhærente.

Lasiandra sarmentosa. *Naud. in Ann. Sc. Nat. ser.* 3. *v.* 13. *p.* 130.

Chætogastra sarmentosa. *DC. Prodr. v.* 3. *p.* 134.

Rhexia sarmentosa. *Bonpl. Rhex. t.* 10.

A very beautiful plant, discovered by Humboldt and Bonpland in the cool valleys of Peru, near Cuenca, and since collected by Dr. Jameson at the same spot, alt. 8000 feet, and elsewhere; by Spruce, at the base of Chimborazo; and by Dr. Seemann, at Loxa and Cuenca, etc., who observes that it is very common and called "Flore de Gallinaso." The specimen here figured was flowered in December, 1866, by our zealous correspondent Isaac Anderson Henry, F.L.S., of Edinburgh, from seeds sent by Dr. Jameson. As this

plant is as well adapted for greenhouse cultivation as *Monochætum*, and is far more beautiful, it is one of the most valuable acquisitions to our houses of late years.

Descr. A small, rather slender, straggling subscandent undershrub, covered with spreading, villous hairs. *Leaves* on petioles half an inch long; blade an inch and a half to two inches long, ovate, acute, quite entire, rounded or cordate at the base, five- to seven-nerved, hairy on both surfaces, bright green above, paler below. *Flowers* two to two and a half inches in diameter, deep violet and very handsome, in small, few-flowered panicles at the ends of the branchlets; peduncles and pedicels short, villous. *Calyx-tube* broadly ovoid; lobes longer than the tube, spreading, subulate-lanceolate. *Petals* broadly obovate-cuneate, retuse. *Anthers* dark purple, with green connectives filaments and tubercles; the longer with the connective produced at the base, where it bears two tubercles; smaller anthers with the connective tubercled, but not produced.—*J. D. H.*

Fig. 1. Large, and 2, small stamens. 3. Calyx, ovary, and style. 4. Transverse section of ovary. 5. Capsule:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5630.

SARCANTHUS ERINACEUS.

Hairy-stemmed Sarcanthus.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4639.)

SARCANTHUS *erinaceus ;* pedunculo muriculato echinato racemoso, bracteis triangulis abbreviatis echinulatis, ovariis pedicellatis æque echinulatis, sepalis oblongis acutis æque echinatis, petalis ligulatis obtusis, labello excavato tridentato, utrinque sub columnâ plicato, dentibus lateralibus bidentatis, dente medio producto triangulo, calcare retrorso conico-cylindraceo vacuo, gibbere pandurato sub columnâ, columnâ gracili elongatâ, rostello deflexo subulato elongato apice bidentato, caudiculâ ab ovato basi lineari, polliniis in stipite bifido centrice caudiculæ inserto reflexis. *Rchb. in Gard. Chron.* 1866.

AERIDES dasypogon. *Hort., non Lindl.*

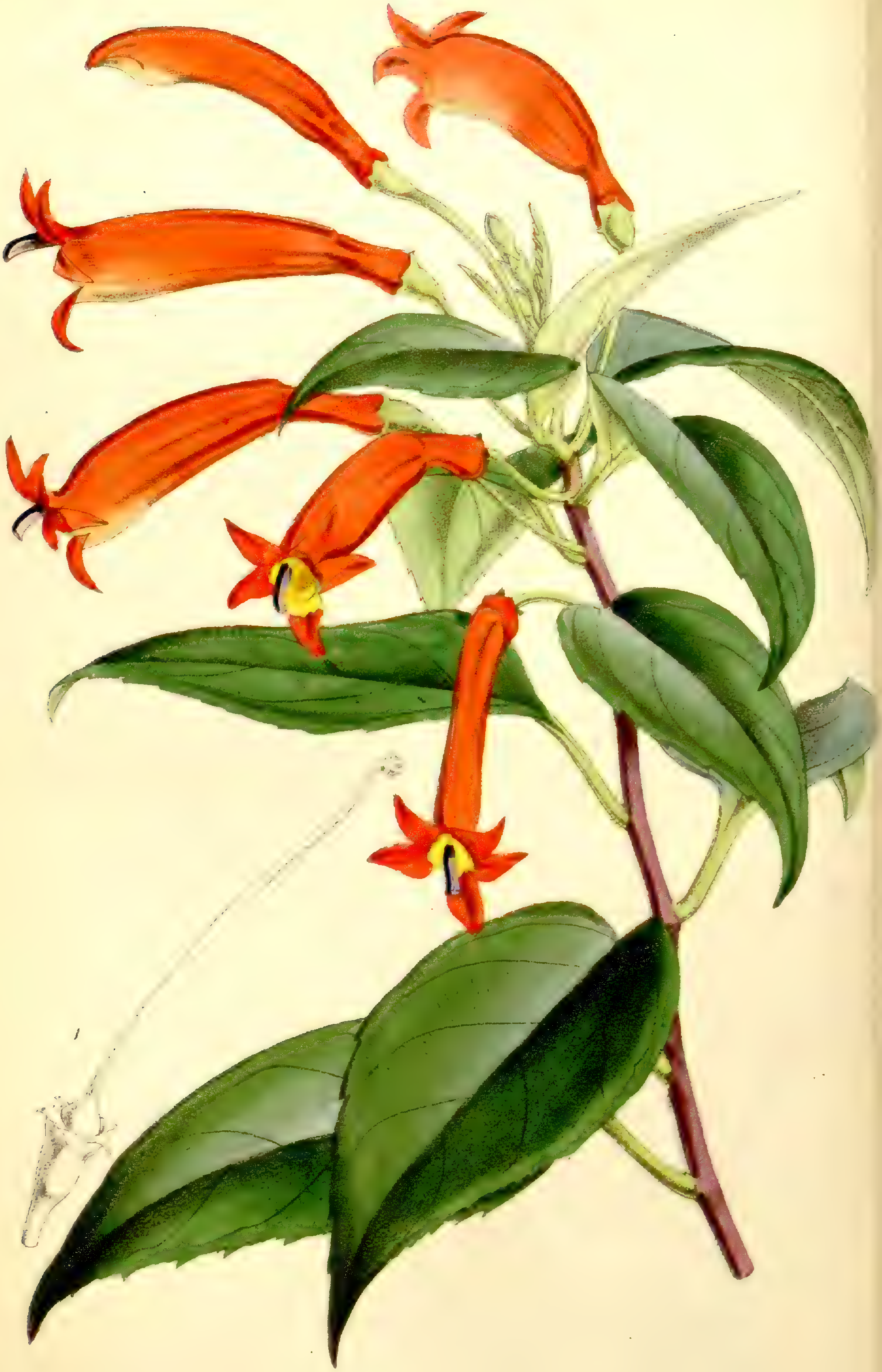
SARCANTHUS Stowellianus. *Batem., mss.*

The first plant that I ever saw of this pretty *Sarcanthus* was bought, under the name of *Aerides rubrum*, about ten years ago, at one of Stevens's sales. After several years' cultivation, it flowered at Knypersley, and as I first noticed the open blossoms as I was passing through the Orchid houses in company with my lamented friend Hugh Stowell, I called it provisionally after him. I did not, however, describe or collate it at that time, and as I shortly afterwards met with it in Messrs. Low's collection under the name of *Aerides dasypogon*, I too hastily concluded that such was probably its real name, and made no further inquiries into the matter. In the autumn of last year, however, I met with the plant again—and this time under the name of *Sarcanthus erinaceus*—in the Royal Gardens at Kew, where it had been seen by Professor Reichenbach, and named as above by him. This name, which well describes the peculiarly shaggy or hedgehog-like appearance of the flower-stems, must therefore

MARCH 1ST, 1867.

stand. It is a rare plant and, always excepting *Saccolabium giganteum*, the slowest grower of its tribe. My plant, which is about four inches high, has at length begun to branch, and, as the branches all flower freely, my specimen has already become an attractive object;—in our grandchildren's days it will be quite charming! It flowers freely during the summer months in the East India house. Its introducer, both to Kew and to Clapton, was the Rev. Mr. Parish, who no doubt met with it in Moulmeyne.—*J. Bateman.*

Fig. 1. Front view of flower. 2. Side view of ditto:—*magnified.*



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5631.

SIPHOCAMPYLUS HUMBOLDTIANUS.

Humboldt's Siphocampylus.

Nat. Ord. LOBELIACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calycis tubus turbinatus v. hemisphæricus; lobi 5. *Corollæ* tubus sæpissime elongatus, incurvus et superne ventricosus, integer, rarissime et basi tantum fissus; limbi 2-labiati lobi 5, tubo breviores, superiores reflexi. *Stamina* connata; antheræ hirsutæ v. 2 inferiores barbatæ.—Frutices suffrutices *v.* herbæ Americanæ, *erectæ v. scandentes.* Folia *alterna v. verticillata.* Pedicelli *axillares.* Flores *albi v. rubri.* Corolla *sæpius pubescens.*

SIPHOCAMPYLUS *Humboldtianus;* suffruticosus, ramulis patentim subvillosis, foliis alternis petiolatis subcoriaceis ovato-lanceolatis ovatisve acuminatis calloso-denticulatis superne glaberrimis subtus sparse pilosis, venis inconspicuis, pedicellis petiolo æquilongis, calycis glabri tubo turbinato, dentibus brevibus triangularibus, corolla fere 2-pollicari longe tubuloso integro, tubo e basi subinflato breviter subcylindraceo, deinde pro maxima parte latiore compresso lente incurvo, lobis brevibus triangulari-lanceolatis patentibus.

SIPHOCAMPHYLUS Humboldtianus. *DC. Prod. v. 7. p.* 398.

SIPHOCAMPYLUS fulgens. *Floral Magazine, t.* 313.

LOBELIA Humboldtiana. *Presl, Prod. Lob.* 35.

This elegant plant was sent for figuring by Mr. Bull, of Chelsea, with whom it flowered in November, 1866, and to whom the Royal Gardens are further indebted for a living plant that has also flowered. The plant is no doubt a native of Peru, whence most of its congeners have been brought, and it is evidently (if any dependence is to be placed on descriptions) the *S. Humboldtianus*, DC., of which, however, I have seen no authentic specimens; it also approaches *S. Peruvianus*, but is larger in all its parts, has broader leaves and pubescent stems, and different calyx-lobes. The genus *Siphocampylus* is very nearly allied to *Lobelia*, and like it, abounds in showy flowered plants. Upwards of fifty species have been described, of which scarce a dozen have been introduced into our gardens. Some are climbers, and, coming

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from the cooler regions of the Andes, may be expected to grow in a temperate house. The present is a very choice plant, and succeeds well in a warm greenhouse, when it is very attractive.

DESCR. A small bush, three feet high, branching from the base. *Stem* and *branches* pubescent with spreading leaves, purplish-brown, slender, flexuous, but apparently not scandent. *Leaves* alternate, on slender petioles three-quarters of an inch long, ovate or ovate-lanceolate, acuminate, acute or rounded at the base, irregularly minutely toothed or serrate, dark green and glabrous above, paler and pilose beneath, rather coriaceous; nerves very faint. *Pedicels* axillary, solitary, slender, as long as the petioles. *Flowers* drooping, decurved, bright scarlet. *Calyx* glabrous, small; tube turbinate or subcampanulate, angled; teeth very small. *Corolla* almost two inches long, scarce half an inch broad at the broadest part, laterally compressed, ribbed, lower quarter narrower, subcylindric, with an inflated base, remaining three-quarters gently swelling, arched; lobes one-third of an inch long, triangular-lanceolate, recurved. *Anthers* exserted, violet-purple, nearly glabrous. *Style* very slender, stigma small. —*J. D. H.*

Fig. 1. Calyx, ovary, and style:—*magnified.*

5632.

W. Fitch del. et lith.

Vincent Brooks Imp.

TAB. 5632.

ONCIDIUM SERRATUM.

Serrated Oncidium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4148.)

ONCIDIUM *serratum;* pseudobulbis ovalibus elatis diphyllis, foliis erectis rigidis acutis basi angustatis canaliculatis, paniculâ paucíflorâ brevioribus, sepalis serrato-crispatis, dorsali reniformi, lateralibus multo longioribus obovatis patentissimis, petalis ovatis acutis serrato-crispatis conniventibus, labello multo minore hastato, laciniis acutis intermediâ lineari obtusâ medio constrictâ lateralibus acuminatis triplo minoribus (cristâ depressâ crenulatâ), columnæ alis subulatis ascendentibus.

ONCIDIUM serratum. *Lindl. Sert., Rchb. in Walpers Ann.* vi.

ONCIDIUM diadema. *Hort.*

I was much struck with this very remarkable *Oncidium*, which I had the good fortune to see in flower in the Bishop of Winchester's collection at Farnham Castle, in December last. It has the colour and somewhat the appearance of *O. crispum*, but the flowers are tossed about after a strange and fantastic fashion, which will no doubt become still more *prononcée* as the plant gathers its full strength and sends forth twining scapes nine or ten feet long. It belongs to a peculiar group, that was at one time regarded as a distinct genus, *i. e. Cyrtochilum*, but which is now more properly considered a subgenus of *Oncidium*. Some of them—the *Cyrtochilum volubile* of Pœppig, for example—have stems twenty feet high. Mr. Linden was the introducer of the present plant, which he sold under the unwarranted name of *O. diadema* in Stevens's rooms. It is a native of Peru, and must be regarded as a moderately "cool" orchid.

DESCR. *Pseudobulbs* tall and oval, bearing one or two long, rigid, erect, acute *leaves*, which are narrowed at the base and canaliculate. *Panicle* lax, many-flowered, much

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longer than the leaves (in wild specimens nine or ten feet long). *Sepals* with crisp and serrate margins, the upper one kidney-shaped, the lateral ones very much longer, obovate and spread open, of a brown chocolate colour, tipped and margined with yellow. *Petals* same colour as the sepals, than which they are much shorter, ovate, acute, connivent. *Lip* very small, hastate, the side portions being acuminate and three times less than the central, which is linear, obtuse, and narrowed in the centre, with a depressed, serrate, or crenulate crest; the colour is similar to that of the sepals and petals, with more yellow about the crest. *Column* with awl-shaped, ascending wings.—*J. Bateman.*

Fig. 1. Front view of lip and column:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5633.

SYNADENIUM Grantii.

Captain's Grant's Milkbush.

Nat. Ord. Euphorbiaceæ.—Monœcia Monandria.

Gen. Char. Involucrum campanulato-hemisphæricum, regulare, 5-lobum, 5-glandulosum, glandulis in cupulam horizontalem plano-concavam margine lobulatam integram v. lobos involucri includentem coalitis. *Flores masculi* 25–30, in fasciculos 5 lobis involucri oppositos dispositi, ecalyculati. *Bracteolæ* aliæ inter fasciculos lineares distinctæ apice fimbriatæ, aliæ circa florem femineum ultra medium in tubum membranaceum apice fimbriatum coalitæ. *Flos femineus* centralis, obsolete calyculatus. *Styli* ad medium connati. *Semen* carunculatum.—Frutices *v.* arbusculæ Africani, *ramis teretibus* carnosis. Folia *sparsa, integra.* Cymæ *terminales, corymbosæ, laxæ,* 2–3-*chotomæ.* Involucra *alia in dichotomiis sessilia, alia terminalia, basi foliis floralibus 2-nis oppositis suffulta. Boiss.*

Synadenium *Grantii;* frutex erectus, ramosus, glaberrimus, ramis crassis teretibus, foliis obovato-spathulatis obtusis in petiolum brevem attenuatis, floralibus parvis appressis tomentosis involucro æquilongis apice rotundatis, involucri pulvinati annularis integerrimi tomentosi lobis margine interiori pulvini insertis erectis late oblongis gibbis apice dentatis, calyculis masculis sub-5-lobis, lobis angustis ciliatis.

During Captains Speke and Grant's adventurous journey to the lake-feeders of the Nile, the latter of the distinguished explorers made an excellent collection of dried plants, which has thrown great light on the botany of Central Africa; together with some seeds, which vegetated in the Royal Gardens, including the beautiful *Mussænda luteola* (Plate 5573). The dried plants were examined by Dr. Thomson, and are enumerated in the Appendix to Captain Speke's work; amongst them was a fragment of a succulent Euphorbiaceous plant, which, having retained its vitality, was taken by Dr. Thomson to the propagating pits, and being planted, has now developed into a striking green Euphorbiaceous bush, seven feet high,—the subject of this Plate. It belongs to a very curious genus, *Synadenium*, closely allied to *Euphorbia* itself, established by M. Boissier in his excellent monograph of *Euphorbia* and its allies, published in the fifteenth volume of De Candolle's 'Prodromus.' The genus as there constituted consists of two species, a Natal and Madagascar one; these being described from dried specimens are necessarily difficult of recognition, and *S. Grantii* is evidently closely allied to the Natal *S. arborescens*, but according to Boissier's careful description that must be a much smaller plant in all its parts, with longer petioles; and the involucre in our species differs from it, and indeed from the generic character, in being entire.

S. Grantii was found by Captain Grant near villages in lat. 3° 15′ N., in February, 1862, and there only. The Kew plant flowered in November, 1866.

Descr. An erect bush, six to ten feet high, with a stout, terete, green stem, few very thick, erect branches, and columnar branchlets thicker than the thumb. *Leaves* scattered, three to four inches long, obovate-spathulate, obtuse, not very succulent, quite entire, dark green above, paler below. *Cymes* axillary, corymbosely branched, six to eight inches long, sparingly dichotomously, green. *Pedicels* purplish. *Floral leaves* or *bracts* appressed, obtuse, tomentose, green. *Involucre* a quarter of an inch in diameter, consisting of an annular, tomentose, red-purple cushion, on the inner margin of which are five broadly-oblong, pubescent, toothed, erect scales. *Stamens* on separate cymes from the pistils, twenty to thirty, with purple anthers and fimbriate calycules at the base of their pedicels. *Styles* green, with bifid recurved stigmas.—*J. D. H.*

Fig. 1. Female and, 2, male involucres. 3. Scale of ditto. 4. Male flower and calyculus. 5. Pistil:—*all magnified.*

W Fitch del et lith.

Vincent Brooks, Imp.

TAB. 5634.

PEPEROMIA ARIFOLIA; var. *argyreia.*

Arum-leaved Peperomia; silver-striped var.

Nat. Ord. PIPERACEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 5568.)

PEPEROMIA *arifolia;* acaulis, glaberrima, foliis alternis longe petiolatis ovato- v. cordato-rotundatis acutis integerrimis supra basin peltatis 7–9-nerviis subsucculentis junioribus concavis, superne læte viridibus opacis, subtus pallidis, petiolis rubris, amento longe pedunculato terminali v. laterali gracili elongato, pedunculo petiolis æquilongo, floribus confertis, bracteis peltatis breviter stipitatis, filamentis brevibus crassis, ovario obovoideo, stigmate sessili globoso pubescente.

PEPEROMIA arifolia. *Miquel, Syst. Piperac. p.* 72. *Martius, Fl. Bras. Piperac. p.* 9. *t.* 2. *f.* 9.

PIPER arifolia. *Hort. Petrop.*

Var. *argyreia;* foliis inter nervos albo-fasciatis.

Under Plate 5668 there was figured a beautiful *Peperomia* from the collection of our friend Mr. Wilson Sanders, F.R.S., that had been cultivated in his and several other establishments under the name of *P. arifolia,* but which was there shown to be quite a distinct species; the present Plate confirms this opinion, and at the same time affords the opportunity of figuring an equally beautiful species. The true *P. arifolia,* as here shown, has no stem, alternate leaves that are peltate, very broad, less concave, and not two-lobed at the base; whereas the *P. marmorata* had erect stems, opposite, narrow and very thick leaves, two-lobed at the base where the petiole is inserted. Both are natives of South Brazil, and were collected by Mr. Weir, Collector for the Horticultural Society. The specimen here figured flowered in the establishment of Mr. Bull, of Chelsea, in November, 1866; it is a very beautiful plant, and like so many of its congeners, is well adapted for placing along the edge of a shelf in a tropical house, both because of its beautifully-marbled leaves, and the length of time which these keep in good condition. In fact few plants are better adapted for permanent bordering in tropical houses than Peperomias, their leaves varying so much in depth of colour, in marbling, in the different hues of their upper and under surfaces, and in the colour of their stalks; then too they are not attractive to insects, make no litter, and give very little trouble in propagating and cultivating.

DESCR. *Rhizome* very short, rooting, as thick as the little finger. *Leaves* tufted at the apex of the rhizome, alternate; petioles dark red, four to eight inches long, terete; blade three to five inches long, orbicular-ovate or -cordate, acute, rounded retuse or two-lobed at the base, quite entire, rather succulent, concave, bright green but not shining above with broad white belts between the nerves, pale below. *Peduncles* as long as and of the same colour as the petioles. *Catkin* three to four inches long, slender, pale green. *Flowers* close set, but not densely packed, very minute. *Bract* peltate, orbicular, with a short, stout stalk. *Filaments* very short; anthers oblong. Ovary obovoid, with a globular, sessile stigma.—*J. D. H.*

Fig. 1. Portion of catkin. 2. and 3. Side and front views of bract, stamen, and pistil:—*all magnified.*

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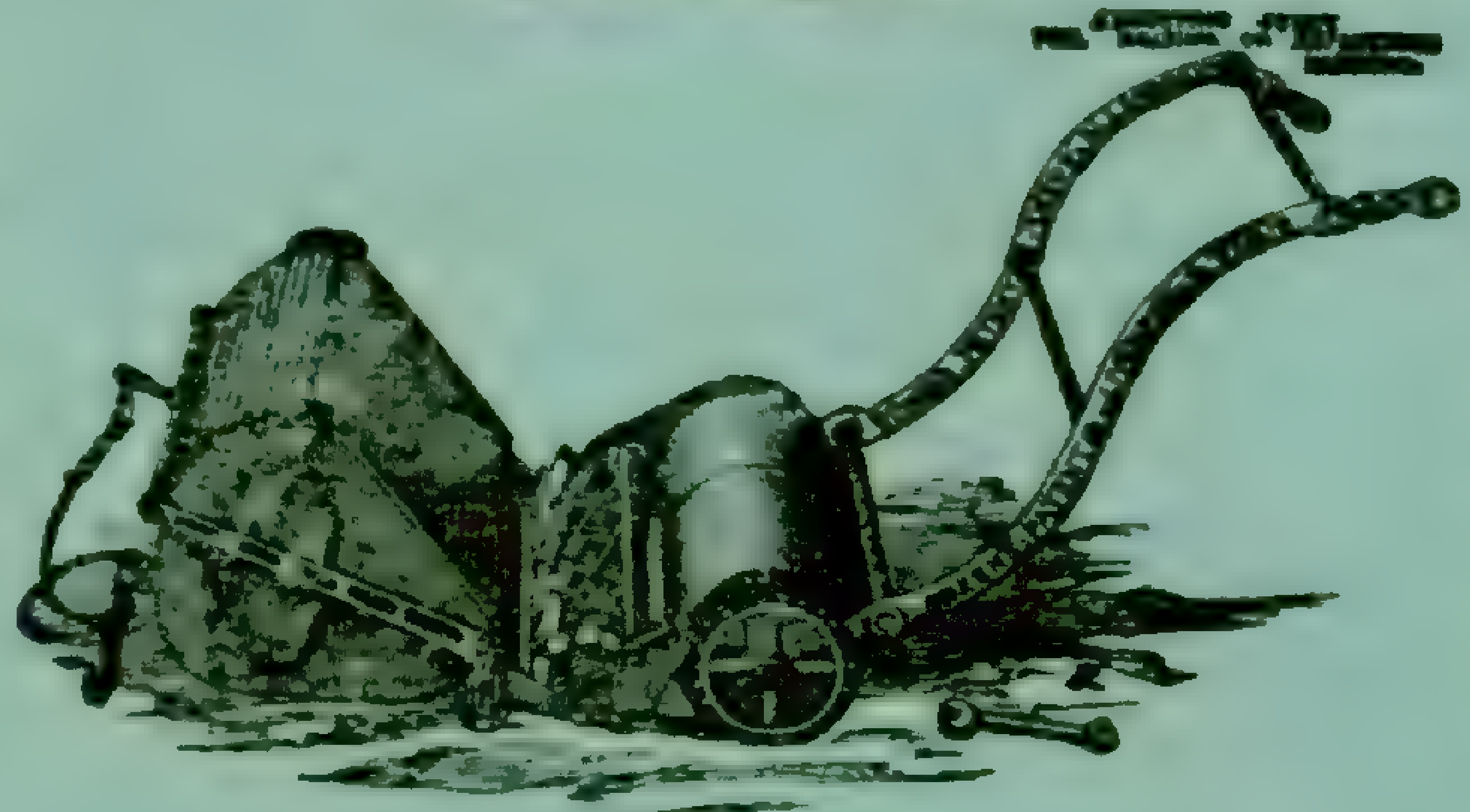

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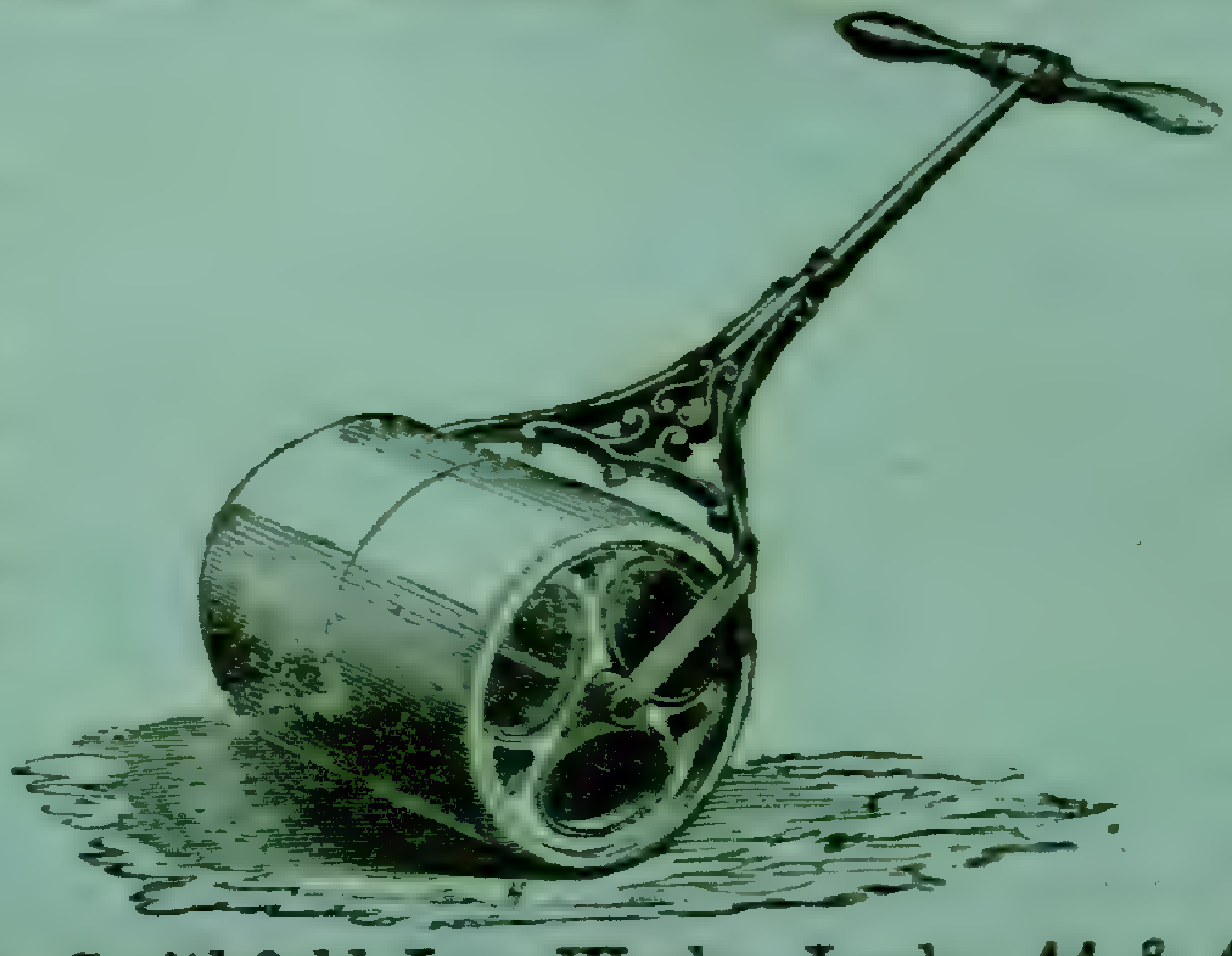

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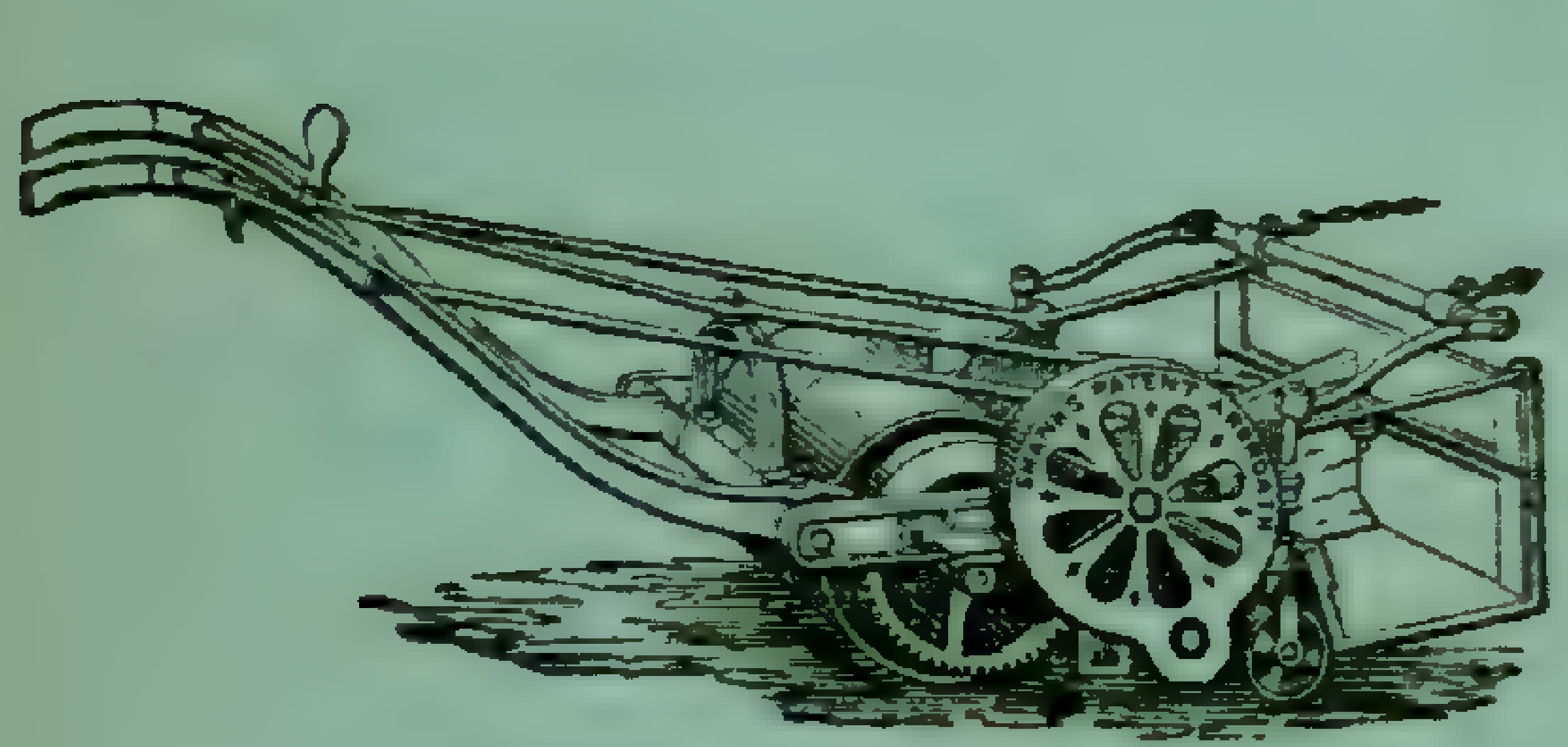
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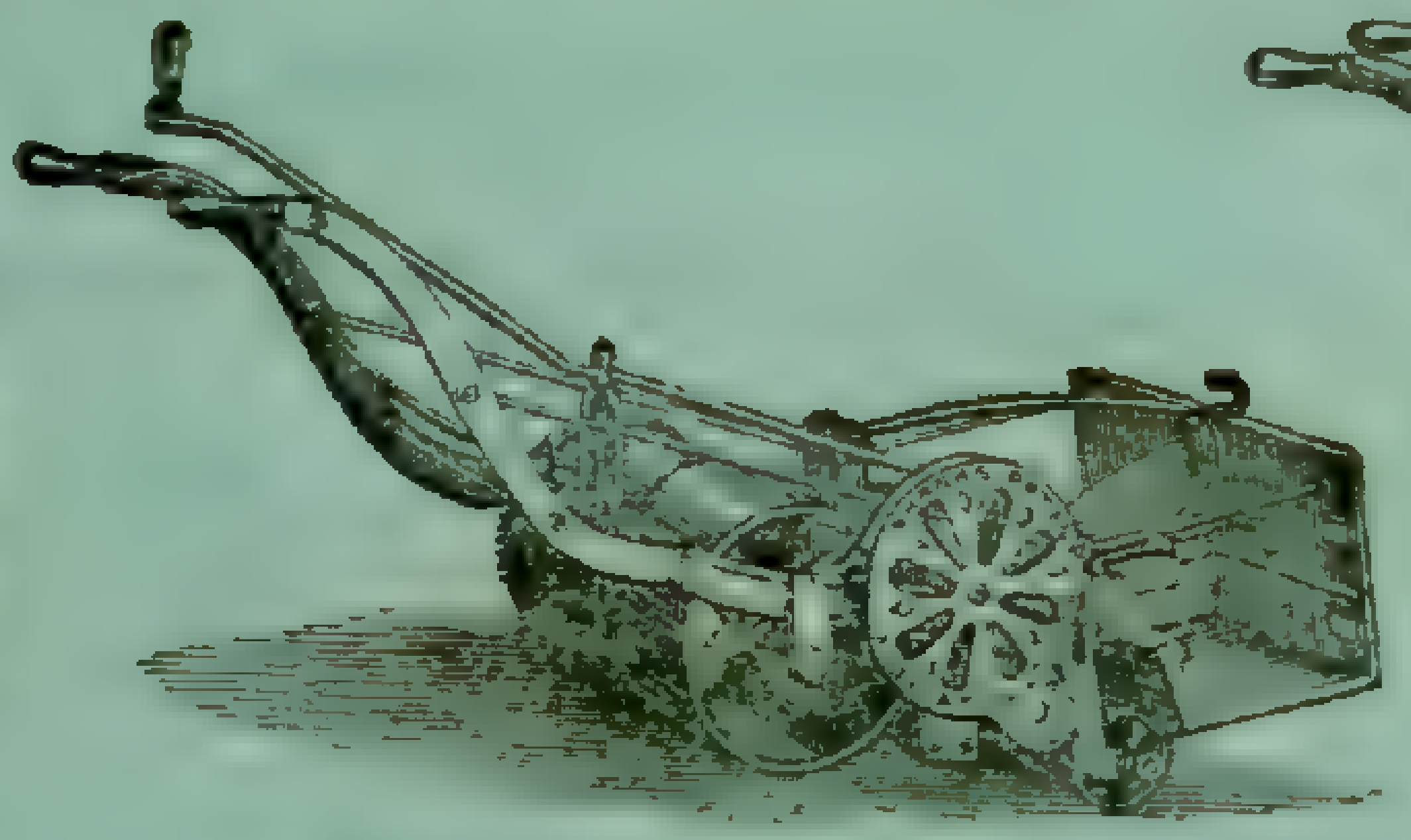
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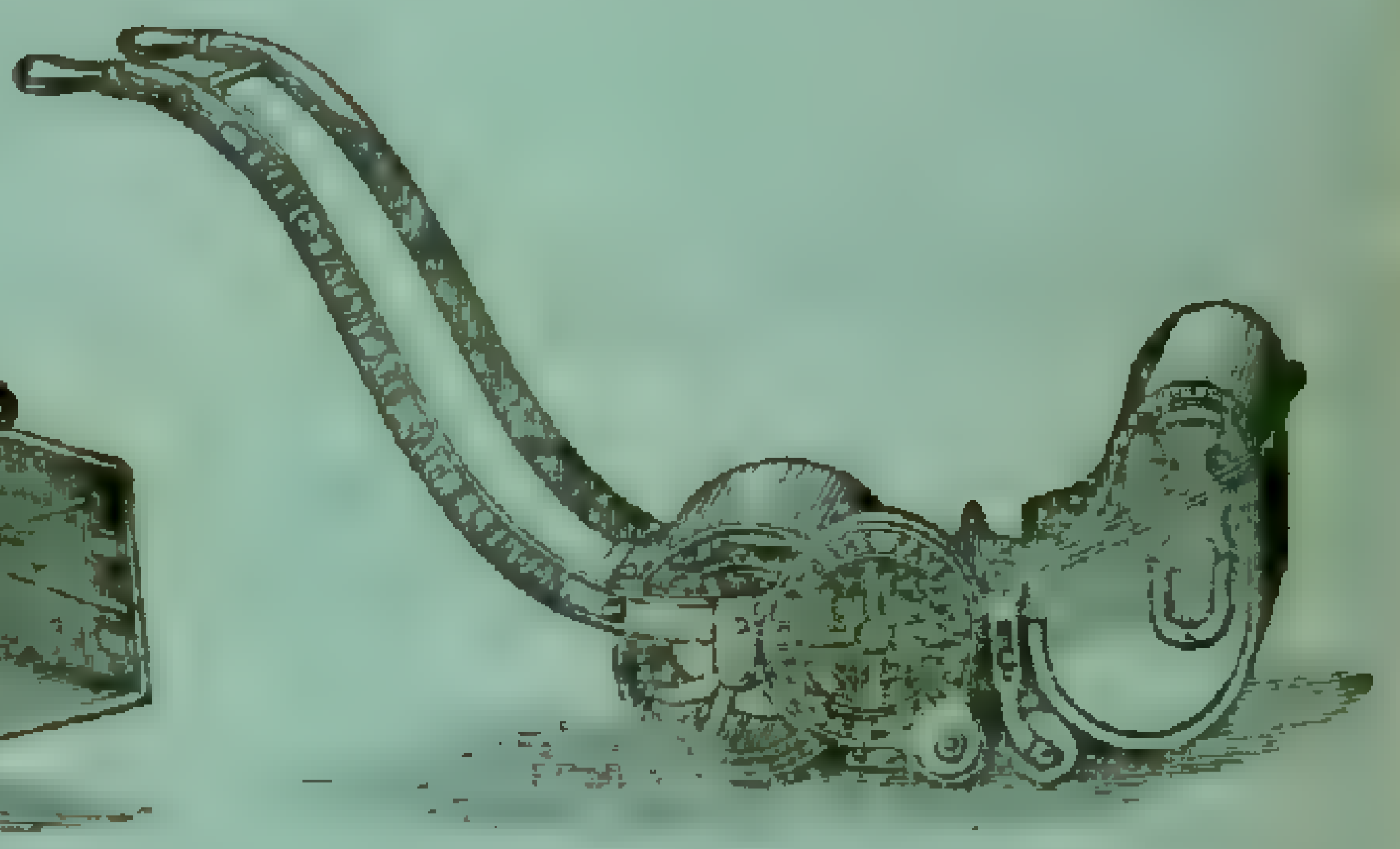
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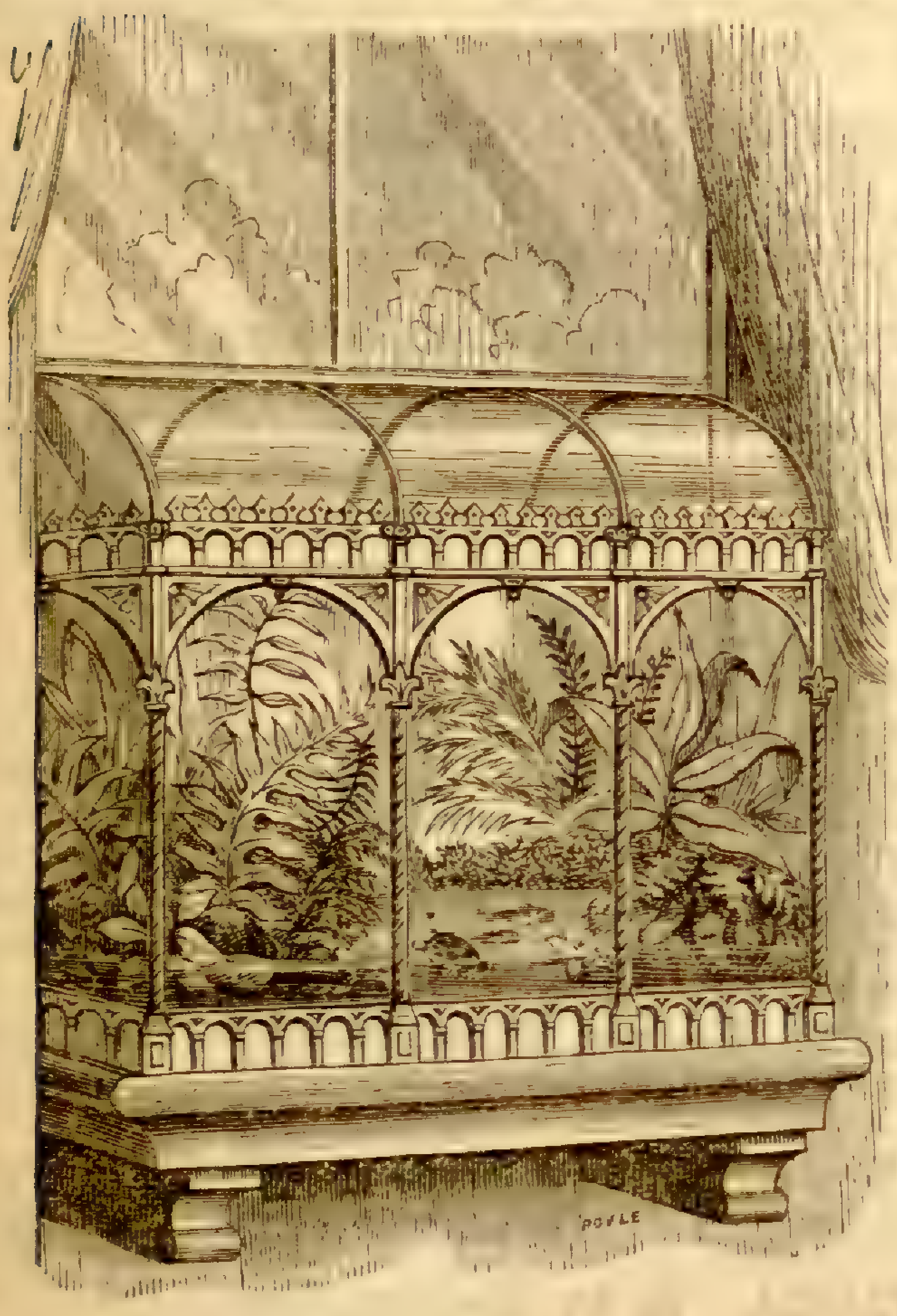

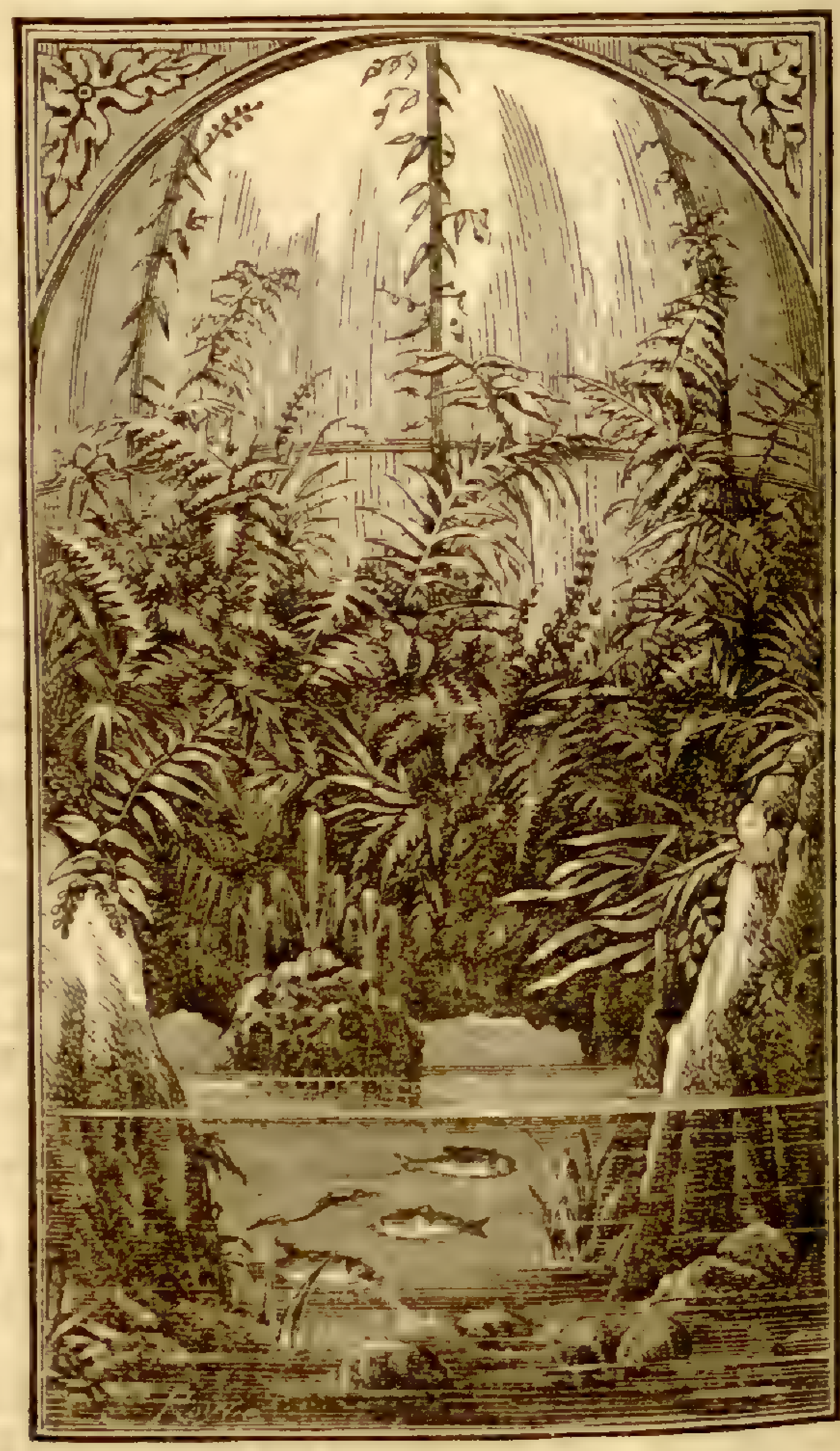

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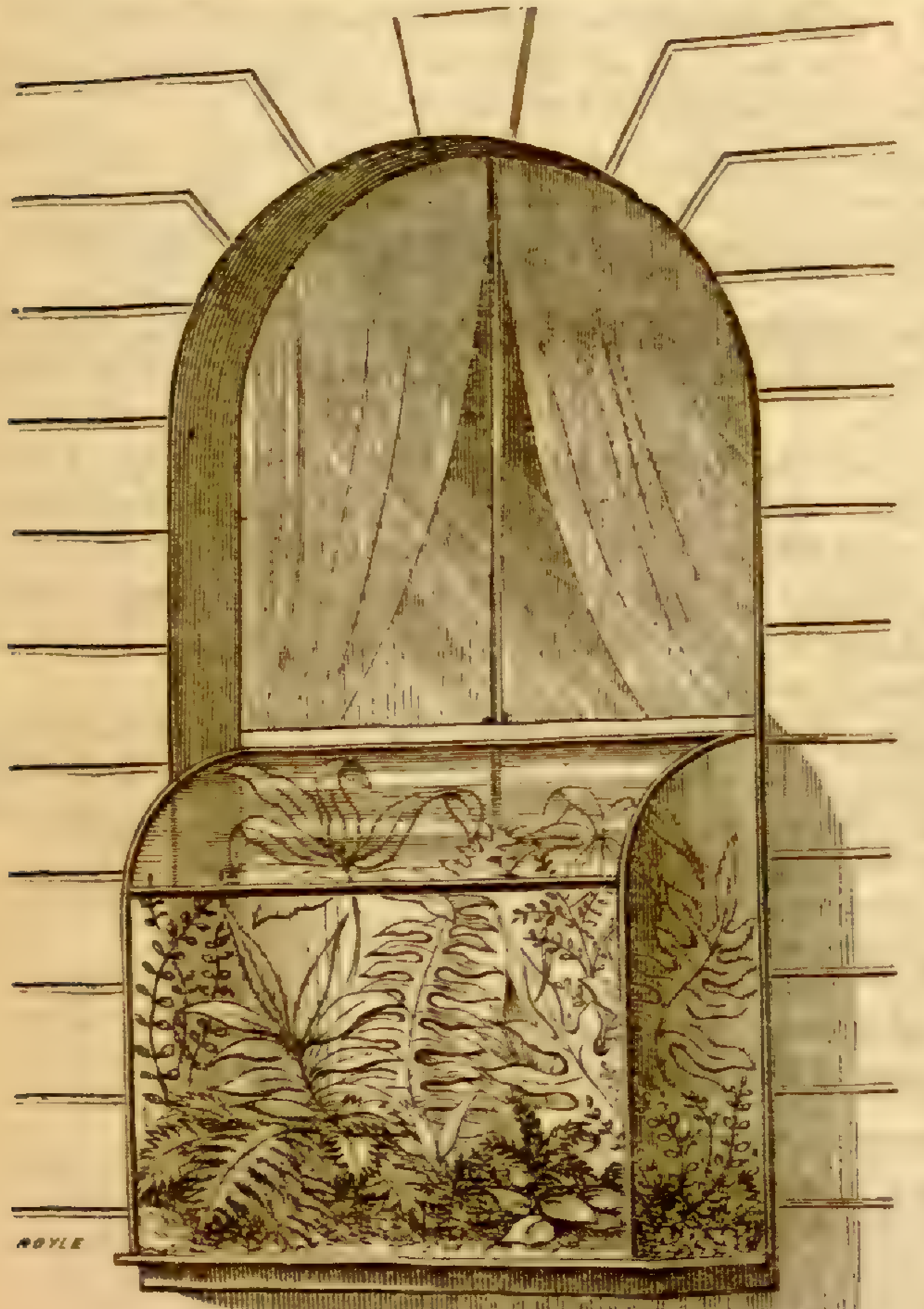

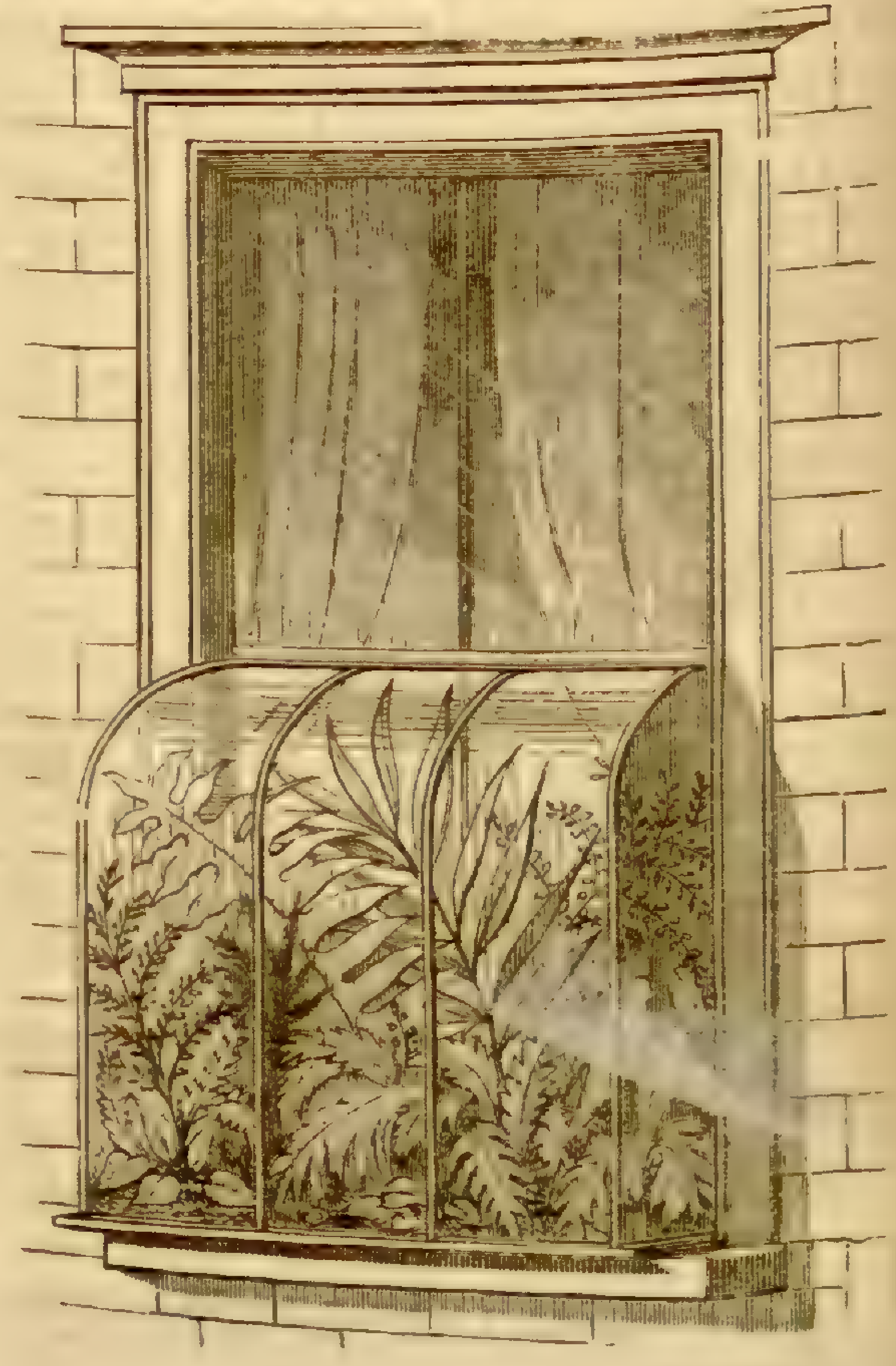

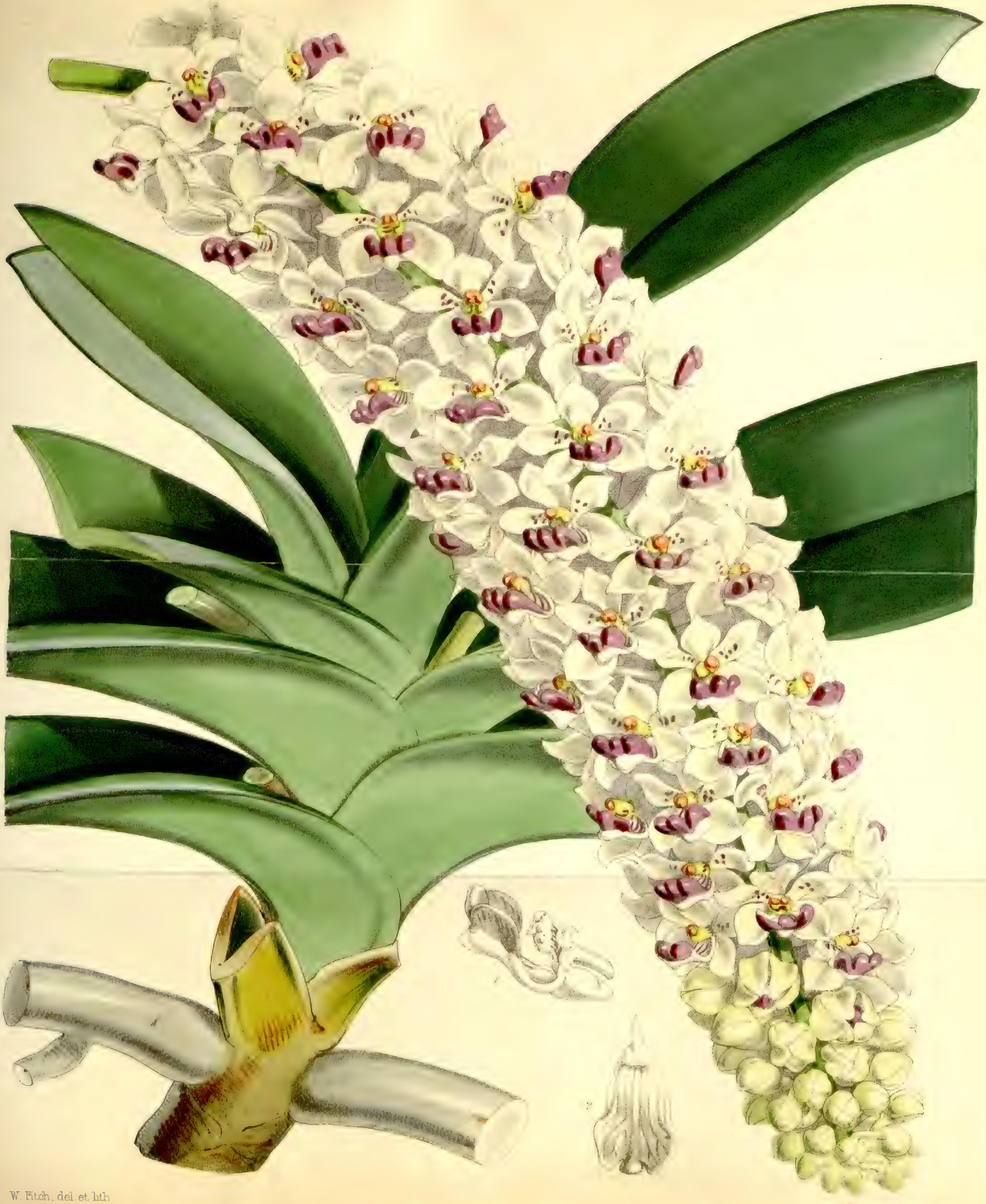

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SACCOLABIUM *giganteum;* foliis latissimis coriaceis crassis apice inæquali obtuse bilobis racemo densifloro subsecundo subæqualibus, sepalis cuneato-ovatis obtuse acutis, petalis angustioribus, labelli laminâ cum columnâ subparallelâ ob calcaris limbos laterales præruptos liberos cuneato-flabellatâ apice trifidâ, laciniis lateralibus semirhombeis, laciniâ mediâ ligulatâ crassâ retusâ haud productâ, lineis barbellatis geminis in basi utrinque in latus calcaris compressi cylindracei conici transcendentibus ibi sphincterem efficientibus, columnâ brevi reclinatâ, antherâ breve rostratâ, polliniis sphæricis breve stipitatis. *Rchb.*

SACCOLABIUM giganteum. *Wall.; Lindl. Gen. et Sp. Orch.* 221.

VANDA densiflora. *Lindl. Paxt. Fl. G. t.* 42. *Folia Orch. Vanda, n.* 22. *Gard. Chron.* 1866, 1194.

The honour of introducing this beautiful plant, as well as of having been the first to flower it, belongs to the Bishop of Winchester, in whose collection at Farnham Castle it made its appearance several years ago. Unfortunately the Bishop's plants were small, and the spikes produced—though sufficient to enable Dr. Lindley to recognize the species—gave but an imperfect idea of the noble aspect that it would eventually assume. The plant moreover is so exceedingly slow in its movements, that notwithstanding the generous anxiety of the Bishop to distribute it, a century might have elapsed before all the orchidians amongst her Majesty's subjects could have been supplied, had no further addition been made to the number of imported specimens. Happily however about a year ago a fresh supply of fine plants were received by Messrs. Veitch from Rangoon, having been sent to them by the gallant Colonel whose name will be worthily perpetuated in the Vanda (*V. Bensoni*), lately figured in this

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work. One of these flowered in the highest perfection in November last, when it was exhibited at one of the Tuesday Meetings of the Horticultural Society, exciting—as well it might—universal admiration. The flowers, which were more agreeably perfumed than those of *S. violaceum*, continued in beauty for nearly a quarter of a year. As to cultivation, patience rather than skill is required, — the main object being to obtain as large specimens as possible, for the racemes of flowers will be large in proportion.

No doubt *S. giganteum* is very nearly related to *S. violaceum;* still it is unquestionably distinct from, and vastly superior to that species. "The chief difference," as Professor Reichenbach observes in an able notice of the plant in the Gard. Chron., "is to be found in the shape, and, in consequence, in the nervation of the lip. The lip of *Saccolabium violaceum* is panduriform, retuse at the apex, with a tooth in the end. All the nerves run nearly parallel. Here the lip is tapering to the base, much dilated at the apex, where it is trifid, but not truncate, with a projecting tooth. Both species have a projecting callosity beneath the lip. Let us add, that the colours of *Saccolabium violaceum* have a more bluish hue, and that that species, bearing more blotches both on the sepals and petals, has a totally different appearance. *S. Harrisonianum* we regard as a splendid white variety of the last."

DESCR. *Leaves* very broad and fleshy, streaked and channelled, irregularly bidentate or eroded at their extremity, from six inches to a foot long, about equal to the dense, many-flowered, nodding, subsecund racemes, that issue from the point of their junction with the stem. *Sepals* whitish, cuneate-ovate, obtusely acute, not so wide as the petals, which are of the same colour, with the addition of a few lilac spots. The lamella (or plate) of the *lip* is nearly parallel with the column, wedge-shaped, divided at its apex into three portions, of which those at the sides are semi-rhomboidal, while that in the middle is short and slightly retused, all these three portions being of the most lovely violet hue, while the remainder of the lip is the same tint as the sepals and petals; there are two hairy lines at the base of the lip, which, descending into the short spur, form a sort of sphincter for the round pedicellate *pollen-masses*. *Column* slightly bent backwards, with a short beak on the *anther*.—*J. Bateman.*

Fig. 1. Column and lip, seen sideways. 2. Front of lip :—*magnified.*

5636.

W Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5636.

CORDYLINE AUSTRALIS.

New Zealand Ti-tree.

Nat. Ord. LILIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. *Flores* hermaphroditi. *Perianthium* campanulatum; foliola 6, persistentia, æqualia, patentia, basi breviter v. longius connata. *Stamina* 6, basi foliolorum perigonii inserta, filamentis subulato-filiformibus glabris; antheræ versatiles, oblongæ. *Ovarium* ovoideum v. obovoideum, obtuse 3-gonum, 3-loculare; stylus rectus, columnaris, stigmate 3-lobo; ovula in loculis pauca v. numerosa. *Bacca* subglobosa, 3-locularis, oligo- v. polysperma. *Semina* angulata, testa atra nitida. Arbores, *rarius* herbæ, *sæpe elatæ*. Folia *apices versus trunci v. ramorum congesta, patentia, ensiformia, coriacea, nervis parallelis, costa obscura v. distincta.* Paniculæ *amplæ, exertæ v. nutantes, ramosissimæ, multifloræ.* Flores *albi v. cærulei, 3-bracteati, bractea intermedia 2-nervi, ceteris 1-nerviis.*

CORDYLINE *australis;* caudice elato arboreo, demum ramoso, foliis ensiformibus, 2–3 ped. longis, 1¼–2 poll. latis, supra basin paulo angustatis, nervis uniformibus numerosissimis striolatis, costa obscura, panicula erecta ramosissima, floribus albis confertis.

CORDYLINE australis. *Hook. f. Fl. Nov. Zeal. v.* 1. *t.* 257. *Gard. Chron.* 1860. *p.* 792. *Handbook of New Zeal. Flora,* 281 (*non. Endl.*).

DRACÆNA australis. *Forst. Prodr.* 151.

The history of the New Zealand and Australian *Cordylines* was long in a state of great confusion, which I attempted to clear up in the 'Gardeners' Chronicle' in 1860. I then showed that the *Dracæna australis* of Forster, which was undeterminable from that author's description, was, according to the figure in the Banksian Herbarium, not the plant so cited in this Magazine (Tab. 2835). I also showed that the Magazine plant, which was sent from the Sydney Botanical Garden, was most probably procured from Norfolk Island, whence I have dried specimens collected by A. Cunningham, so long the Superintendent of the Sydney Gardens.

I have now the pleasure of figuring what I believe to be the true *Dracæna australis* of New Zealand, the commonest

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of four or six species that inhabit that group of islands, and a plant which could not well have escaped Forster's notice. It is a very handsome small tree, almost hardy in the west of England, quite so in the Scilly Islands, where Mr. Augustus Smith has flowered fine specimens in the open air. It often passed for *C. indivisa* in the nurseries, but that, as is now well known, is a totally different plant, with a much broader, yellow-green, strongly-veined leaf, and a drooping panicle of much larger flowers. The plant from which the accompanying drawing was made, flowered in the temperate house at Kew, in June, 1866.

Descr. *Trunk* slender, twelve to twenty feet high, branching at the top when old. *Leaves* two to three feet long, ensiform, an inch and a quarter to two inches broad, slightly contracted above the base, with numerous fine, parallel, striated veins, and no obvious midrib, dark green. *Panicle* very large, erect, copiously branched. *Flowers* most abundant, crowded, white. *Perianth-tube* very short, limb spreading, one-third of an inch in diameter, inner segments toothed irregularly in the margin. *Berry* as large as a small pea, white, with black shining seeds.—*J. D. H.*

Fig. 1. Reduced figure of whole plant. 2 and 3. Base and apex of leaf. 4. Branch of panicle. 5. Bud. 6. Flowers. 7. Ovary. 8. Transverse section of do. Fig. 5–8, *magnified.*

5637.

W. Fitch, del. et lith.

Vincent Brooks, Imp

TAB. 5637.

TINNEA ÆTHIOPICA.

Violet-scented Tinnea.

Nat. Ord. LABIATÆ.—DIDYNAMIA GYMNOSPERMIA.

Gen. Char. Calycis 2-labiati tubus subenervis, ventricosus, verticaliter depressus, labiis planis subæqualibus integerrimis semi-orbicularibus. *Corollæ* tubus brevis, rectus, latiusculus, cylindricus, limbi verticaliter depressi 2-labiati labio superiore abbreviato 2-lobo, inferiore porrecto 3-lobo, lobis lateralibus parvis rotundatis intermedio multo majore suborbiculari emarginato. *Stamina* 4, filamentis basi barbellatis; antheræ inclusæ, parvæ, reniformes, filamento oblique adnatæ. *Stylus* gracilis, stigmate inæqualiter 2-fido. *Fructus* . . .—Frutex *erectus, ramosus, ramis teretibus cano-pubescentibus.* Folia *parva, petiolata, ovato- v. ovoideo-lanceolata, acuta v. subobtusa, integerrima.* Verticillastra *axillaria, pauciflora, pedunculata.* Flores *odori, majusculi, pedicellati, calyce viridi, corolla fusco-purpurea.*

TINNEA æthiopica. *Kotschy in 'Plantæ Tinneanæ,' ined. cum tabula.*

Amongst the more important scientific results of the late gallant explorations of Central Africa, has been a great accession to our knowledge of its previously little known flora; and for this we are indebted almost exclusively to three individuals—Dr. Kirk, during Livingstone's exploration of the Zambesi and Shire rivers and Lakes Shirwa and Nyassa; Captain Grant, during Captain Speke's and his own adventurous journey to the upper waters of the Nile; and Mdlle. Tinne and Herr Heuglin, during their disastrous Nile voyage. Singularly enough, the beautiful plant here figured was found by all three expeditions, and I do not know to whom the merit of being its first discoverer belongs, though we owe to Mdlle. Tinne the introduction of the plant, and the specimen here figured. Dr. Kirk gathered it on the Manganga hills, in October, 1862; and Captain Grant, in the Umyoso forest, in August of the same year; but where Mdlle. Tinne's party, who collected it in 1863, found it, I do not know, their collections being at Vienna; and my late friend

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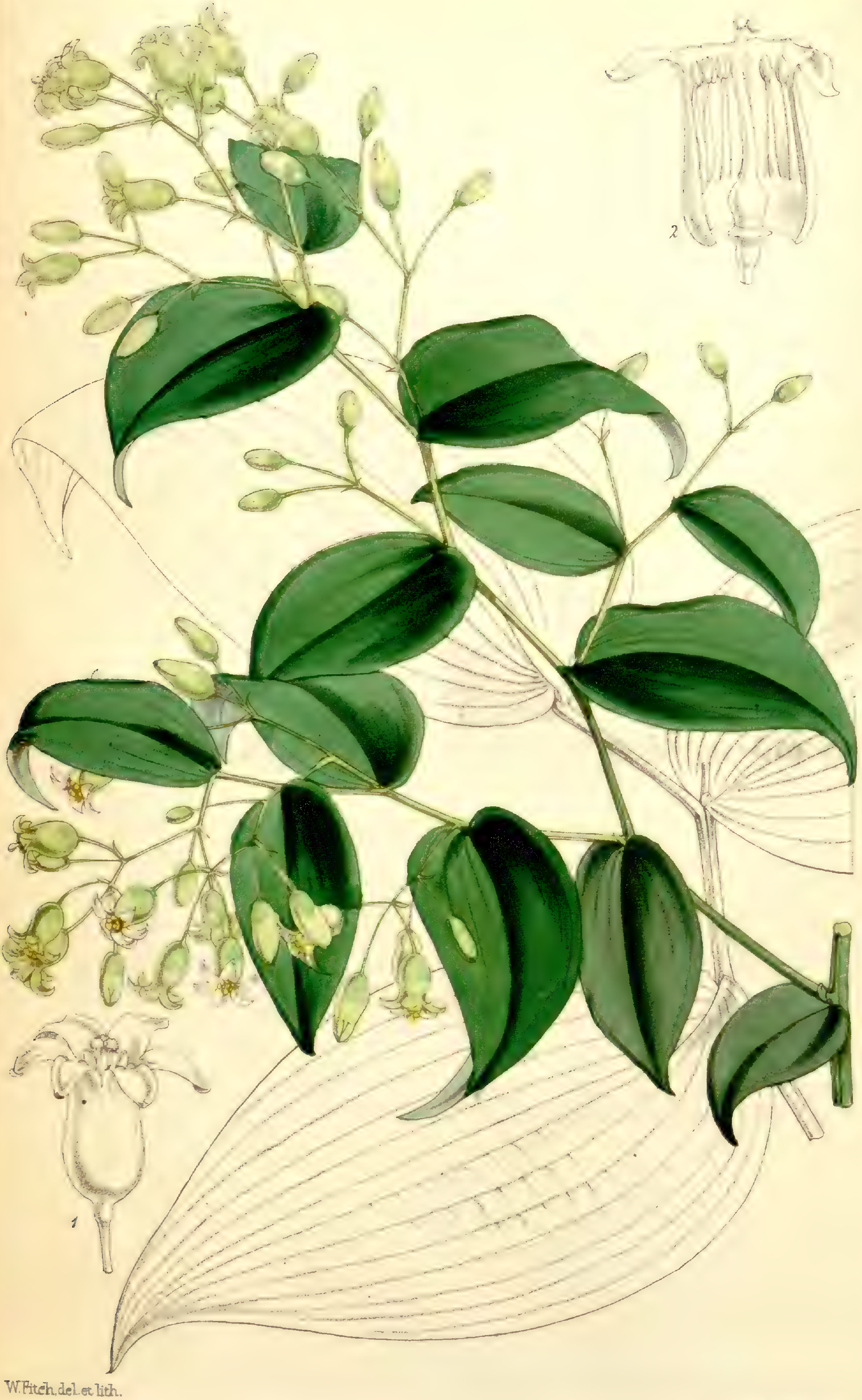
Dr. Kotschy, the author of the hitherto unpublished work in which this plant is figured, is recently deceased.

Tinnea is a stove plant, of which seeds were sent home by Mdlle. Tinne's party, and were raised at Liverpool, by Mr. Sandbach, in 1865; and it is no less remarkable for the maroon-purple colour of its flowers, than for their delicious perfume of violets. It flowered copiously at Mr. Williams's Nursery at Holloway, and at Kew, last winter. The genus belongs to the division *Stachydeæ*, of the Order *Labiatæ*.

Descr. A hoary bush, four to six feet high. *Stems* and *branches* erect, terete, ribbed, twiggy. *Leaves* on short slender pedicels, ovate, subacute or acute, quite entire, narrowed at the base; nerves faint. *Flowers* copiously produced in all the upper axils; in native specimens, arranged in terminal elongate spikes. *Peduncles* two- to three-flowered, bracteate. *Calyx* bright green, ventricose, depressed, two-lipped; the *lips* broad, transversely flattened, quite entire. *Corolla* dark maroon-purple, tube broad, little longer than the calyx; *limb* compressed horizontally, two-lipped, upper lip short, almost truncate, two-lobed, lower advanced, flattish, three-lobed, lateral lobes small rounded, middle large, orbicular, emarginate. *Stamens* four, with parallel filaments, bearded at the very base; *anthers* small, concealed under the upper lip, attached laterally to the filament, reniform, two-celled. *Style* slender.—*J. D. H.*

Fig. 1. Corolla laid open. 2. Ovary, style and stigma and disk:—*both magnified.*

5638.



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Tab. 5638.

DICTYOPSIS Thunbergii.

Thunberg's Dictyopsis.

Nat. Ord. Smilaceæ.—Hexandria Monogynia.

Gen. Char. ***Flores*** hermaphroditi. *Perianthium* deciduum, tubuloso-campanulatum, limbo brevi 6-lobo, lobis recurvis 3-nerviis. *Stamina* 6, basi perianthii tubi inserta, filamentis inferne tubo adnatis, inclusis; antheræ oblongæ. *Ovarium* ovoideum, basi attenuatum, apice cum stylo columnari continuum, 3-loculare, stigmate capitato 3-lobo; ovula in loculis 2–4, 2-seriata. *Bacca* globosa, 3-locularis, oligosperma. *Semina* plano-convexa, testa coriacea, albumine copioso.—Herba *glaberrima, scandens, foliosa, ramis gracillimis teretibus.* Folia *sessilia, ovata, acuminata, integerrima, basi rotundata v. cordata, costa tenui distincta, nervis lateralibus numerosis tenuibus, nervulis transversis pulcherrime reticulatis.* Pedunculi *simplices v. 3-chotome ramosi, axillares et terminales, pedicellis gracilibus sub calyce articulatis.* Flores *parvi, nutantes, albo-virescentes.*

Dictyopsis *Thunbergii. Harv. Gen. Cap. Pl. Ed.* 2, *ined.*

Ruscus reticulatus. *Thunb. Prodr. Fl. Cap.* 13. *Willd. Sp. Pl. v.* 4. *p.* 876. *Kunth, Enum. Pl. v.* 5. *p.* 276.

At Plate 5584 of the last volume of the Magazine, was figured a Cape climbing Liliaceous plant, of singular grace and beauty, so much resembling this in habit and general appearance, that it must strike every one as surprising that these plants have nothing whatever to do with one another; that they do not belong to the same natural family even; and that the apparently precisely similar leaves of the two are in the one case (that of the *Myrsiphyllum*) not leaves at all (as noticed under its description). The *Myrsiphyllum* is a Liliaceous plant, with six leaflets to the perianth, seeds with a black covering, and the apparent leaves are flattened leaf-like branches, growing from the axils of small scale-like true leaves. The *Dictyopsis* is a Smilaceous plant, with an entire tube to the perianth, seeds with a coriaceous pale testa, and true leaves without scales at their bases.

Dictyopsis reticulata is a most beautiful tender greenhouse climber, as graceful and as fitted for all decorative and ornamental purposes as *Myrsiphyllum*. It is a native of the eastern districts of South Africa, from Albany and Somerset (Mrs. Barber and Mr. Hutton) to British Kaffraria (Cooper) and the coast land of Natal (Dr. Sutherland).

Descr. A slender, graceful, glabrous leafy climber. *Stems* and *branches* cylindric. *Leaves* sessile, ovate, acuminate, rounded or cordate at the base, with many parallel nerves, the central forming a distinct midrib, all finely reticulated with cross-nerves. *Peduncles* axillary and terminal, three- or more-flowered, sometimes paniculately branched. *Flowers* drooping, pedicelled; pedicels articulate. *Perianth* tubular-campanulate, green below, white above, limb of six reflexed lobes. *Stamens* six, filaments adherent to the sides of the base of the perianth-tube; anthers oblong. *Ovary* narrowed above and below; style columnar; stigma capitate, three-lobed; ovules two to four in each cell. *Berry* subglobose, half an inch in diameter. *Seeds* with a coriaceous coloured testa and copious albumen.—*J. D. H.*

Fig. 1. Flower. 2. The same laid open:—*both magnified.*

5639.

W Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5639.

DOMBEYA MASTERSII.

Dr. Masters's Dombeya.

Nat. Ord. STERCULIACEÆ.—MONADELPHIA PENTANDRIA.

Gen. Char. (*Vide supra*, TAB. 5487.)

DOMBEYA *Mastersii;* ramulis gracilibus foliis utrinque et inflorescentia pilis laxis molliter villosis, foliis gracile petiolatis late ovato-cordatis acuminatis angulatim sub-3-lobis serrato-dentatis 7–9-nerviis, pilis subtus ad nervos stellatis, stipulis lanceolatis ?, corymbis gracile pedicellatis subsimplicibus multifloris ebracteatis, pedicellis filiformibus calycibusque patentim pilosis, bracteis lanceolatis sepalis reflexis consimilibus, petalis obovato-cuneatis valde obliquis uno latere producto acuto albis, staminibus 15, stylo gracili, stigmatibus filiformibus recurvis.

DOMBEYA angulata. *Masters in Gard. Chron. January*, 1867, *p.* 14, *non Cav.*

The beautiful plant here figured flowered in the Palm house at Kew in January of the present year, and was the subject of an interesting communication to the 'Gardeners' Chronicle' by Dr. Masters, who, besides deservedly eulogizing it for the elegance of its perfumed trusses of pure white flowers, adds some valuable observations on the morphology of the flowers, and a curious account of the action of the staminodes in the process of fertilization. The staminodes, he observes in the opening flower to curve downwards and outwards, so as to come into contact with the stamens, whose anthers open outwardly, and allow their pollen to adhere to them. Being thus provided with a freight of pollen, the staminodes uncoil, and bring their points to a level with the stigmata, which curl round them, and thus receive the pollen. Should this interesting observation be verified, it will prove a remarkable discovery, and proof of an arrangement for self-fertilization, as curious as any that Mr. Darwin has discovered for the contrary effect.

With regard to the correct nomenclature of this species

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(of the introducer of which I find no record in the Gardens), it is certainly not *D. angulata*, which is well figured at Tab. 2905 of this work, and which has very broad bracts, pink flowers, and much less oblique petals; nor do I think it agrees with any Mauritian species; but it is identical with a tropical African one, of which there are specimens in the Hookerian Herbarium, collected in Abyssinia by Dr. Roth, and by Captain Grant on the banks of the Nile north of Chopeh, in November, 1862. It is further very nearly allied to, if not identical with *D. Schimperiana*, A. Rich., of Abyssinia, but that is a larger plant, with broader, more obtuse petals, and a longer staminal tube.

DESCR. Our plant is a small bush, from four to five feet high, sparingly branched, the branches slender, nearly glabrous; branchlets tomentose, with soft, spreading hairs. *Leaves* four to seven inches long, deeply cordate-ovate, acuminate, obscurely angularly lobed, rather sharply toothed, five- to nine-nerved, bright-pale-green, villous, with long hairs, on both surfaces, those on the nerves beneath stellate. *Peduncles* axillary, slender, about as long as the petioles, bearing a simple or rarely subcompound corymb. *Bracts* none at the base of the pedicels. *Pedicels* numerous, slender, one inch long, pilose, with soft, spreading hairs. *Flowers* pearly-white, one inch in diameter; bracts beneath the flowers lanceolate, as long as and similar to the sepals. *Sepals* narrow-lanceolate, one-third of an inch long. *Petals* very obliquely obovate-cuneate, produced at one side into an obtuse or acute point, white. *Stamens* fifteen, with pinkish filaments and a short tube; *staminodes* strap-shaped. *Style* slender, pilose at the base; stigmas filiform. *Ovary* very woolly.—*J. D. H.*

Fig. 1. Stamen and ovary. 2. Ovary:—*both magnified.*

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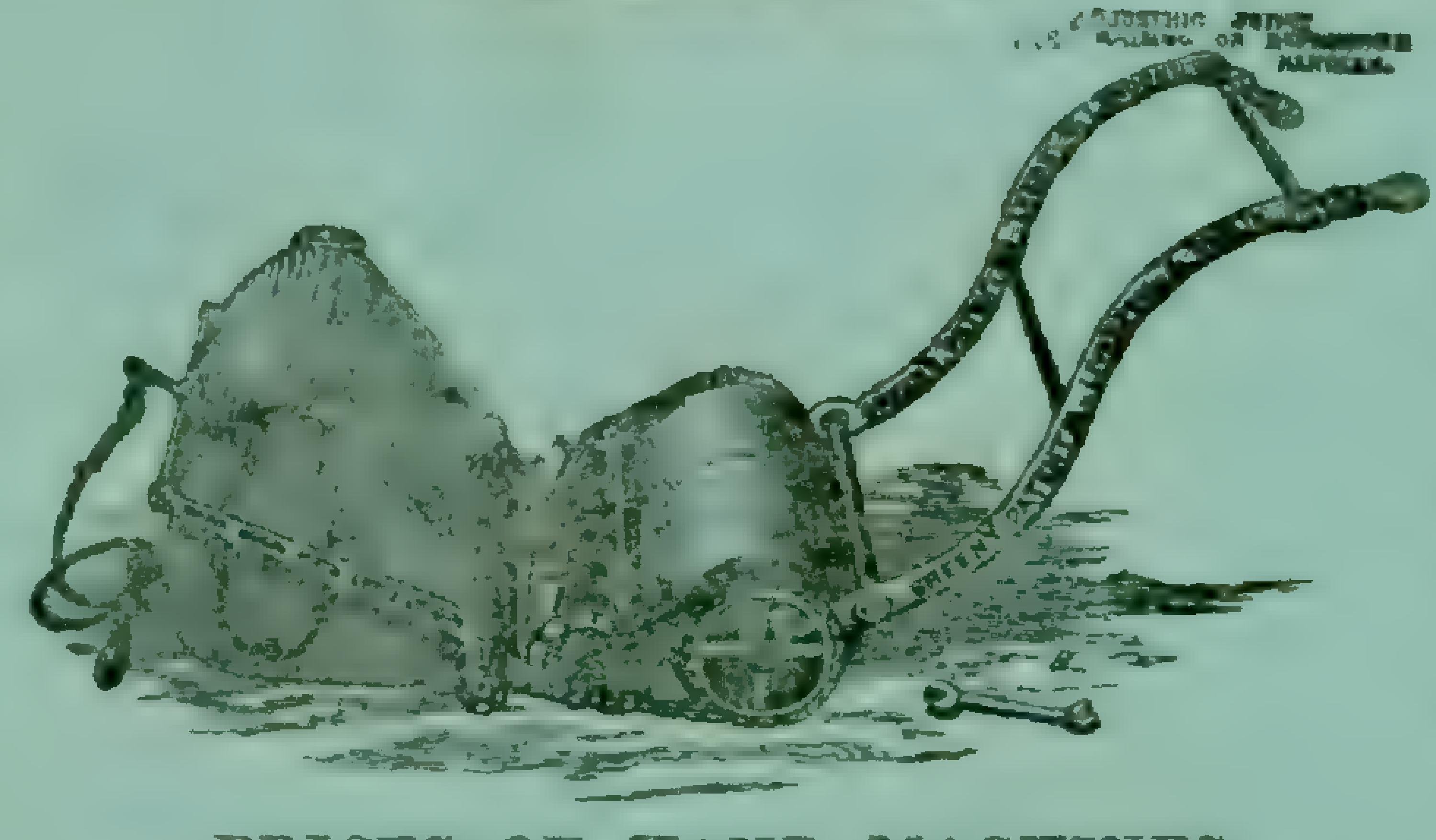

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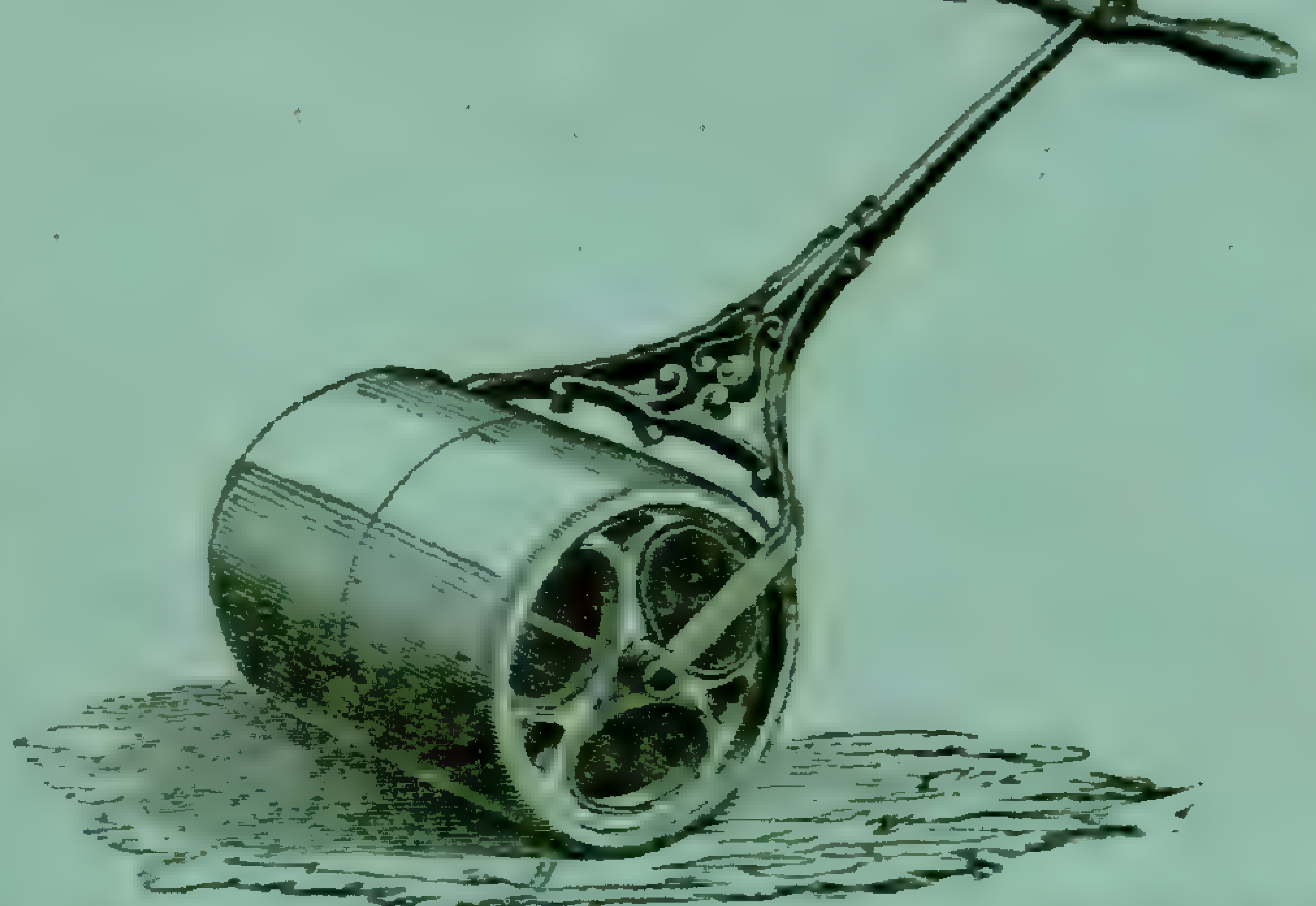

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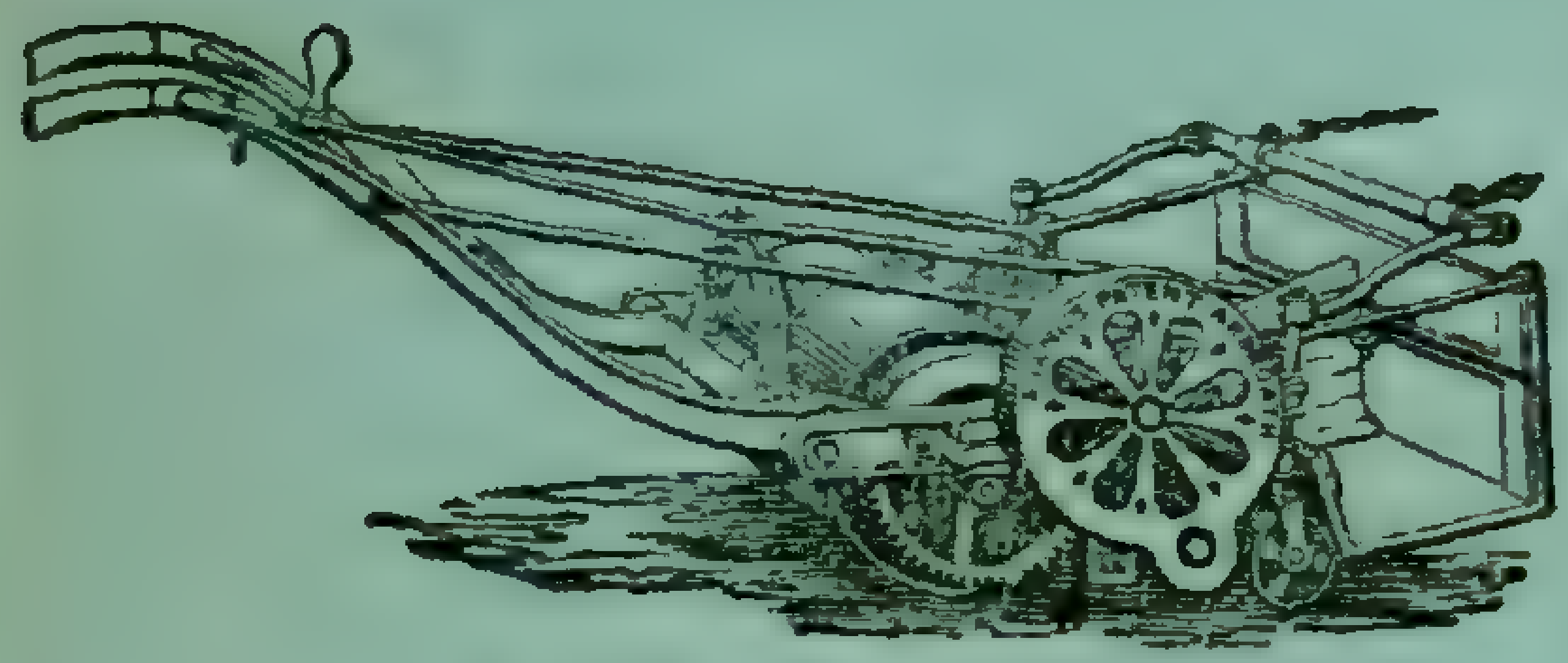

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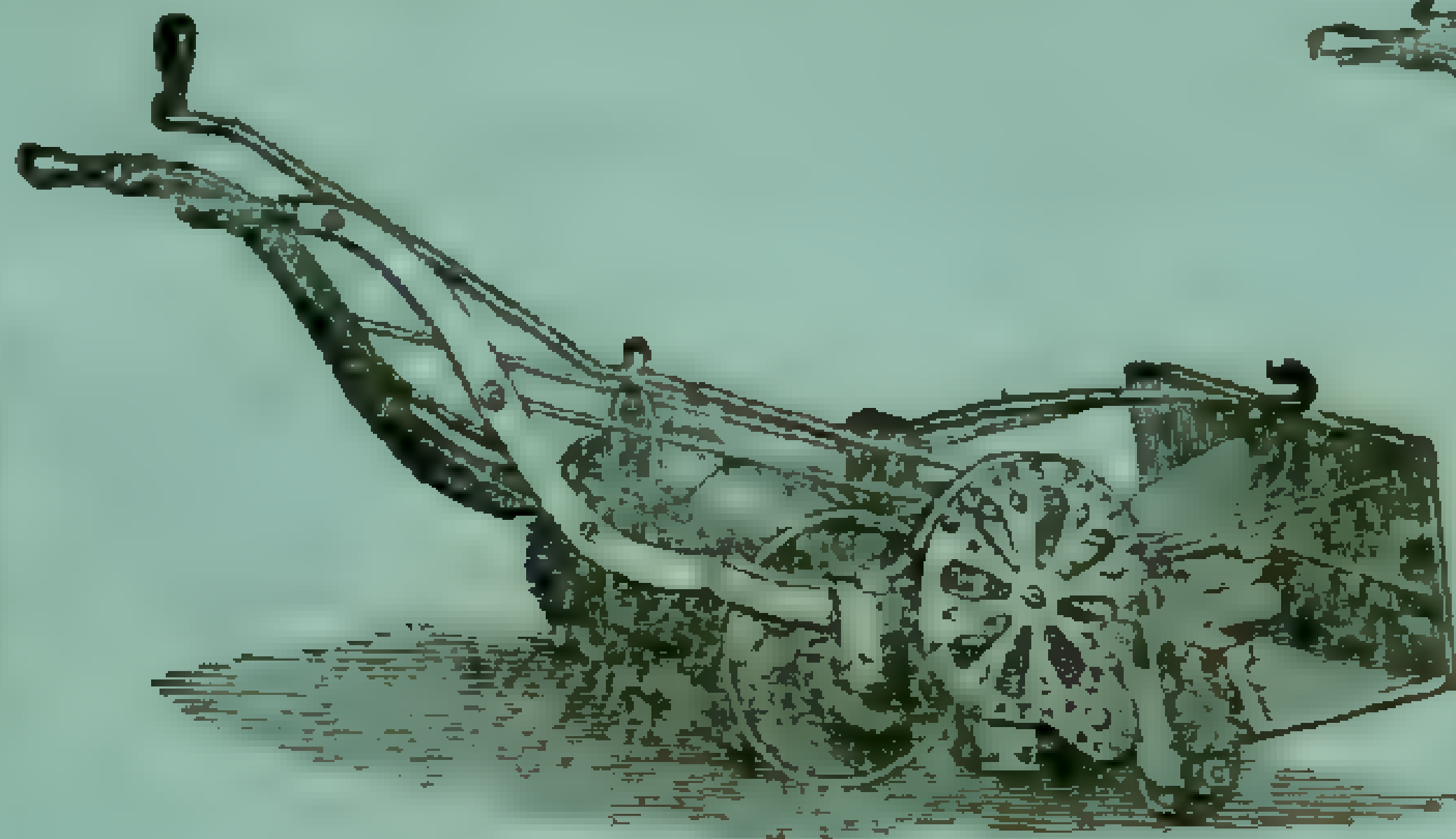

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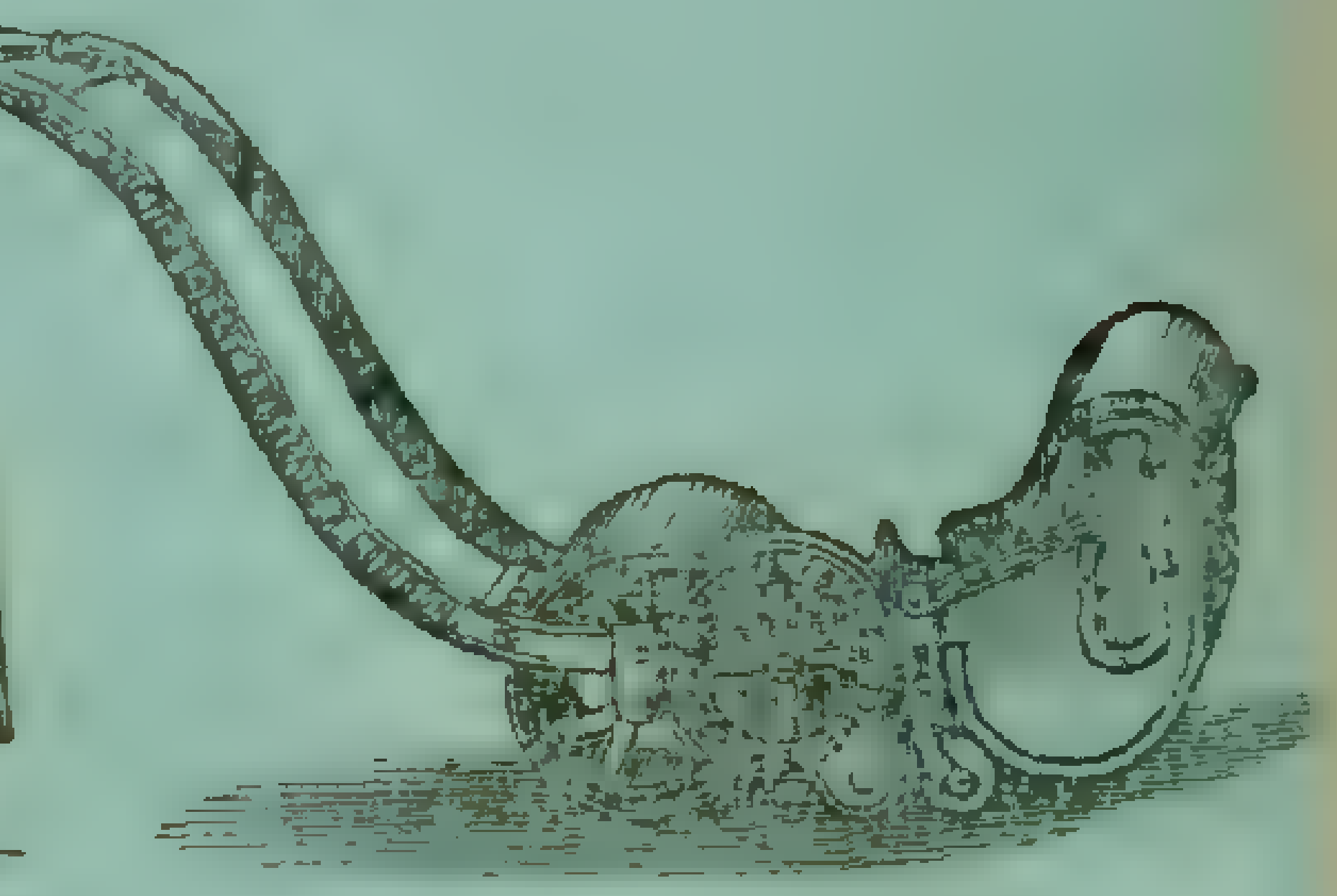

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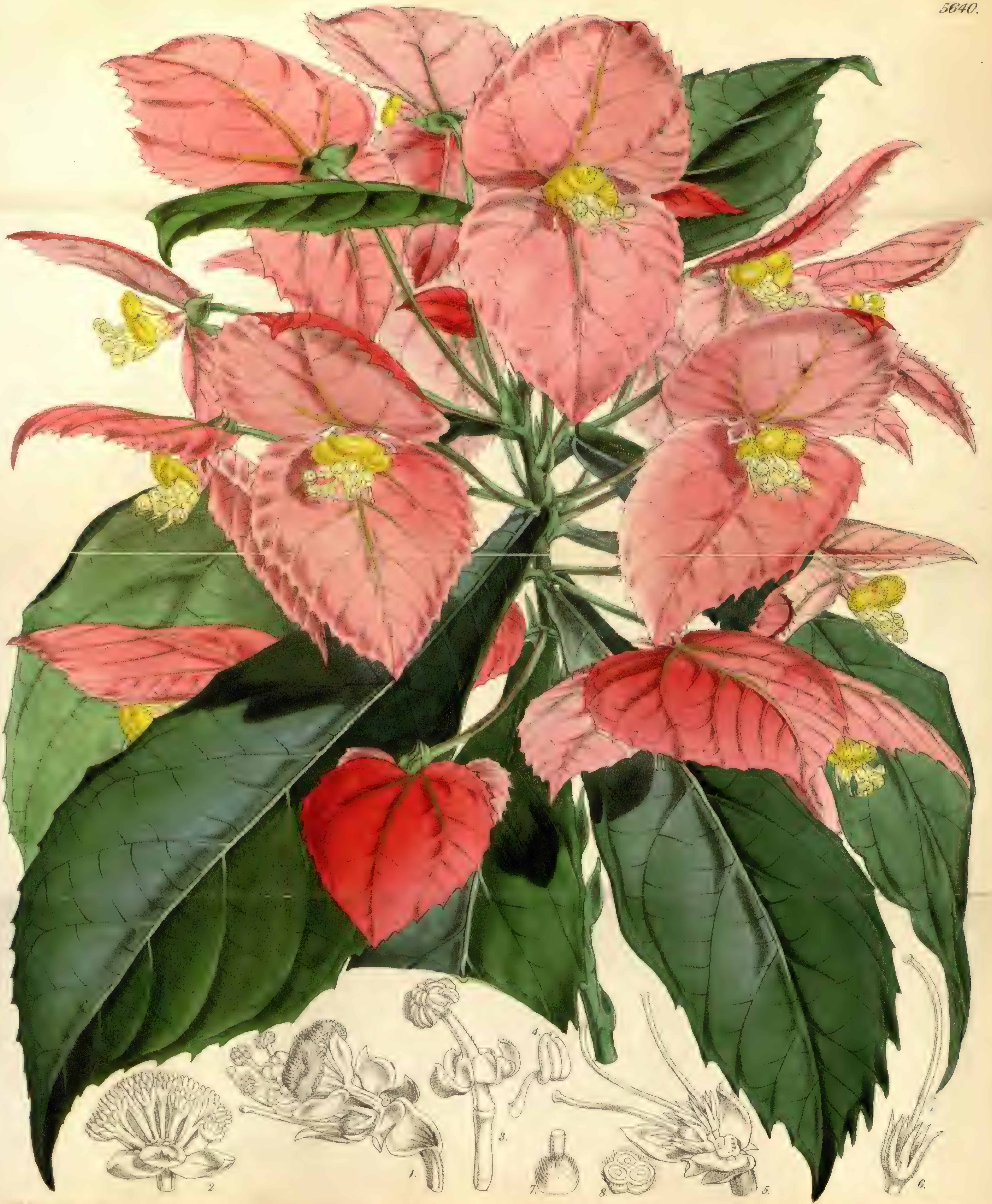

W Fitch, del et lith

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Tab. 5640.

DALECHAMPIA Roezliana.

Roezl's Dalechampia.

Nat. Ord. Euphorbiaceæ.—Monœcia Polyandria.

Gen. Char. *Flores* monoici, ♂ et ♀, involucro compresso 2-phyllo 2-sexuali inclusi. *Calycis* ♂ laciniæ 4–5, valvatæ; ♀ 5–12, imbricatæ. *Petala* utriusque sexus 0. *Discus* fl. ♂ 0; fl. ♀ sæpius obsoletus. *Stamina* centralia, in receptaculo convexo sita; antheræ 2-rimosæ, loculi longitrorsum adnati. *Ovarii* loculi 1-ovulati. *Capsula* 3–4-cocca. *Semina* ecarunculata; cotyledones complanatæ.—Frutices tropici, *sæpissime volubiles.* Folia *alterna, petiolata, penninervia v. palminervia, indivisa lobata v.* ∞-*foliolata.* Stipulæ 2. Flores *axillares, pedunculati, bracteis foliaceis albis pallidis v. coloratis 2-stipulatis inclusi.* Involucella ♀ 3-*flora*, ♂ ∞-*flora, latere superiore floribus sterilibus carnoso-ceraceis pallidis multicristatis aucta.*

Dalechampia *Roezliana;* caule erecto, foliis sessilibus v. brevissime petiolatis obovato-oblongis lanceolatis spathulatisve longe acuminatis integerrimis v. supra medium grosse obtuse serratis basi angustatis cordato-2-lobis, stipulis ovato-triangularibus, ovario sericeo-pubescente, stylo gracillimo, stigmate obtuso.

Var. *a. rosea;* involucri foliolis grosse dentatis serratisve pulchre roseis.

Dalechampia Roezliana, *var. a.* rosea. *Mueller Argan, in DC. Prod. v.* 15., *p.* 1233.

A truly superb plant, one of the noblest introduced for many years, comparable only with the *Bougainvillææ* amongst those of its habit, and exceeding these in the size and clear rose-colour of its broad membranous veined involucral leaves. The specimen here figured was flowered in March of the present year by Mr. Bull, of Chelsea, who procured it from Messrs. Van Houtte, of Ghent. It is a native of Vera Cruz, and, according to its first describer, Dr. Mueller Argan (in De Candolle's 'Prodromus'), living plants were sent from Mexico to the Botanic Garden of Zurich by its discoverer, M. Roezl. Mueller further has another variety, *β viridis*, distinguished by its subentire leaves, and greenish or greenish-red involucral leaves, which he states to be cultivated by

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M. Van Houtte, and to have been received by that eminent nurseryman from M. Ortgies, of Zurich; but I can hardly fancy this variety being anything more than an imperfectly developed state of the original plant (*a rosea*).

The genus *Dalechampia* contains some fifty tropical plants, chiefly American; very few of them having any claims to horticultural notice, though the white bracts and scandent habit of some may recommendthem.

Descr. An erect shrub, three to four feet high, much branched and leafy, glabrous, bright-green. *Leaves* six inches long, subsessile, narrow obovate-oblong or -lanceolate, long acuminate, entire or coarsely obtusely toothed above the middle, narrowed and produced towards the base, which is cordate, dark shining green above, paler below. *Stipules* large, green, ovate or triangular-ovate. *Peduncles* solitary, axillary, strict, shorter than the leaves. *Involucral bracts* two to two and a half inches long, broadly cordate, sessile, toothed, membranous, nerved, of a brilliant rose-red colour, alternating with two small ovate, acute, green stipule-like outer bracts. *Flowers* clustered, male and female together, with many bracteoles at the base of the clusters. *Male flowers* on a jointed pedicel. *Sepals* five, oblong, spreading and incurved, puberulous. *Staminal* column cylindric, pubescent; *anthers* numerous, capitate; pedicelled waxy capitate bodies (imperfect male flowers) are clustered together at one side of the male flowers. *Female flowers* subsessile. *Calyx*-lobes six, erect, lanceolate, irregularly toothed or entire. *Ovary* pubescent, three-celled. *Style* very slender; stigma obtuse.—*J. D. H.*

Fig. 1. Cluster of flowers. 2. Ditto of imperfect males. 3. Male flower and pedicel. 4. Stamen. 5. Cluster of female flowers. 6. Female flower. 7. Ovary. 8. Transverse section of ditto:—*all magnified.*

W Fitch, del et lith.
Vincent Brooks Imp.

TAB. 5641.

AGAVE SCHIDIGERA.

Splintered-Leaved American Aloe.

Nat. Ord. AMARYLLIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5333.)

AGAVE *schidigera;* acaulis, foliis horizontaliter patentibus pedalibus anguste ensiformibus spinuloso-acuminatis supra basin dilatatam paulo angustatis viridibus albo-lineatis marginibus late albo-lanatis in filis planis elongatis retortis desinentibus, scapo stricto gracili 6-pedali bracteis elongatis strictiusculis acicularibus dense obsito, spica elongata stricta sublaxiflora, floribus viridibus 2-3-nis, fasciculis subsessilibus bractea filiformi subtensis, ovario cylindrico pollicari glaberrimo, perianthii tubo subinfundibuliformi ovario æquilongo, lobis lineari-oblongis revolutis acutis tubo æquilongis, filamentis subulatis perianthio æquilongis strictis, antheris lineari-elongatis.

AGAVE schidigera. *Lemaire in Verschaffelt Cat.* 1861; *Compte Rendu Soc. Roy. d'Agric. et Bot. Gand*, 1861; *Illust. Hortic. v.* 8. *sub t.* 287, *et v.* 9. *t.* 330.

AGAVE filifera, *var.* pannosa *et var.* adornata. *Scheidw. in Compte Rendu Soc. Roy. Agric. et Bot., et in C. Koch, Wochenschr. n.* 36. 1861.

The remarkable plant here figured was introduced into Europe in 1861, from Mexico, by Mr. Verschaffelt, of Ghent, and its foliage was figured in the 'Illustration Horticole' of the following year, where it is also described by M. Lemaire, on whose authority our synonyms and quotations rest. Our specimen flowered in January in Mr. Williams's establishment, Paradise Nursery, Holloway, where the drawing was executed by Mr. Fitch. As a species, M. Lemaire states that it is so very closely allied to *A. filifera*, that he was at first disposed to regard it as a variety of that plant, but that it differs in the more linear (less oblong) leaves, more dilated at the base, their less pungent tips, and the very much thicker, broader, woolly, torn edges of the leaf,

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while, according to the figure of the *A. filifera* in the 'Revue Horticole,' the corolla-lobes of that plant are shorter.

DESCR. *Stem* none. *Leaves* forming a low subhemispherical mass; lower spreading and recurved; upper suberect, about one foot long, narrow linear-ensiform, with red subpungent apices, dilated at the base and slightly contracted above it; with irregular longitudinal broad white bands on both surfaces, and white edges, from which are given off woolly recurved flattened broad filaments, one to three inches long. *Scape* strict, erect, about six feet high, lower third covered with numerous erect or recurved subulate red-brown bracts, two inches long and upwards. *Spike* rather slender, very many-flowered, cylindric. *Flowers*, including the stamens, three and a half inches long, green, with yellow anthers, rather dense, in fascicles of two or three, each fascicle subtended by a filiform red flexuous bract. *Pedicels* very short, with very small broad bracteoles. *Ovary* cylindric, glabrous. *Perianth* tube as long and broad as the ovary, lobes as long as the tube, linear, acute, revolute. *Filaments* strict, subulate, one inch long; *anthers* nearly as long, linear-elongate. *Stigma* obtusely three-lobed. *J. D. H.*

Fig. 1. Reduced figure of entire plant. 2. Leaf, *nat. size*. 3. Flowers, *nat. size*.

5642.

W. Fitch, del et lith

Vincent Brooks, Imp

TAB. 5642.

GOMPHIA THEOPHRASTA.

Theophrasta-like Gomphia.

Nat. Ord. OCHNACEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. Sepala 5, decidua. *Petala* 5, calyce paulo longiora, obovata, unguiculata, imbricata. *Torus* crassus, lobatus, in gynophorum elevatus. *Stamina* 10, basi tori inserta, erecta, conniventia; *antheræ* sessiles, poris dehiscentes. *Ovarium* profunde 5–6-partitum; *styli* arcte connati, stigmate simplici; *ovula* in loculis solitaria, a basi adscendentia. *Drupæ* 5 v. abortu pauciores, toro ampliato sessiles. *Semen* erectum; testa membranacea; cotyledones carnosæ, plano-convexæ; radicula brevissima, ad hilum descendens.—Arbores *v.* frutices *glaberrimæ*. Folia *alterna*, *persistentia*, *simplicia*, *coriacea*, *nitida*, *argute serrata*, *nervis creberrimis*. Stipulæ *liberæ v. connatæ*. Paniculæ *v.* racemi *terminales v. terminales et axillares*, *bracteatæ*. Flores *lutei*, *pedicellis basi articulatis*.

GOMPHIA *Theophrasta*; foliis pedalibus brevissime petiolatis elongato-ovato-lanceolatis accuminatis serrulatis supra basin obtusum integerrimis, paniculis ramosis ramis suberectis basi bracteis 2 subulatis stipulæformibus auctis, fasciculis 2–5-floris, floribus $\frac{2}{3}$ un. diam., pedicellis gracilibus curvis ebracteolatis, sepalis oblongo-lanceolatis subacutis pallide viridibus, petalis oblongo-ovatis obtusis.

GOMPHIA Theophrasta. *Lind. Hort. Cat.* 1859.

WOLKENSTEINIA Theophrasta. *Regel in Gartenfl. v.* 14 (1865). *p.* 131. *t.* 471.

Of the large and handsome genus *Gomphia*, containing upwards of eighty species, almost all of them American, and distinguished for their glossy foliage, and many for their beautiful flowers, not half-a-dozen have been introduced into Europe, and only one, *G. olivæformis* (Tab. 5262), has hitherto been figured from living specimens in this country; yet no plants can be more suited for stove decoration, whether for the persistence of their bright, shining, evergreen foliage, or the golden colour of their inflorescence.

G. Theophrasta was introduced by Mr. Linden's collectors from South America, but of its exact native country I have no information. It is allied to the Brazilian *G. castaneæfolia*, DC., but differs conspicuously in the very much longer leaves.

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attenuated to an obtuse base, with the margins quite entire for an inch above the petiole, and in other points.

Descr. A small stove *shrub*, probably becoming a bush or small tree in its native country. *Leaves* crowded at the apex of the stem, a foot long, three inches broad, spreading and recurved, on very short thick petioles a quarter of an inch long, acuminate, acutely serrulate from an inch above the base to the tip, oblong-lanceolate, almost linear below, rounded at the very base, not very coriaceous; veins numerous, arching. *Panicle* a foot long, copiously branched; branches stout, ascending, with two subulate stipuliform bracts at the base. *Flowers* one-third of an inch in diameter, in clusters of two to five on the branches of the panicle; pedicels spreading, slender, curved, without bracts. *Sepals* linear-oblong, obtuse, pale yellow-green. *Petals* golden-yellow, rather longer than the sepals, ovate-oblong, obtuse. *J. D. H.*

Fig. 1. Flower. 2. Stamen. 3. Pistil. 4. Transverse section of ovary:—*all magnified.*

5643.

W Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5643.

EPIDENDRUM eburneum.

Ivory-flowered Epidendrum.

Nat. Ord. Orchideæ.—Gynandria Diandria.

Gen. Char. (*Vide supra,* Tab. 5336.)

Epidendrum (Euepidendrum) *eburneum;* caulibus erectis fasciculatis teretibus foliosis, foliis oblongis lineari-oblongisve planiusculis obtusis coriaceis enerviis, racemo terminali 4–6-floro brevi inclinato, bracteis parvis viridibus late ovato-triangularibus, sepalis lineari-lanceolatis acuminatis integerrimis pallide citrinis, petalis angustioribus, labello ungue columnæ adnato lamina ampla cordato-rotundata acuta integerrima planiuscula eburnea basi 2-tuberculata, columna crassiuscula apice truncata sub-5-dentata.

Epidendrum eburneum. *Reichenb. fil. in Gard. Chron.* 1867, *p.* 404.

A handsome stove Orchid, discovered by Mr. P. Henderson, of the Royal Mail Packet Company's service, by whom it was sent to T. R. Tuffnell, Esq., of Spring Grove, Isleworth. It was found within a few miles of Colon, in Panama, growing in swamps, close by the railway, and flowered with Mr. Tuffnell in December, 1866. It belongs to the subsection "*planifolia racemosa*" of the section *Euepidendrum* in Lindley's arrangement of this vast and difficult genus, as given in his 'Folia Orchidacea,' but is wholly different from all described species, and from any preserved in the Lindleyan or Hookerian Herbaria at Kew. Though wanting the gorgeous colours of so many stove Orchids, its good foliage and ivory-white lip recommend it for cultivation.

Descr. *Stems* tufted, one to two feet high, terete, leafy, as thick above as a swan's quill, more slender below, deep green. *Leaves* alternate, spreading, plane, three and a half to four and a half inches long, and an inch and a quarter broad, linear-oblong, obtuse, amplexicaul, very coriaceous, with an impressed costa but no nerves, dark green on both surfaces. *Raceme* terminal, without spathes or membranous bracts,

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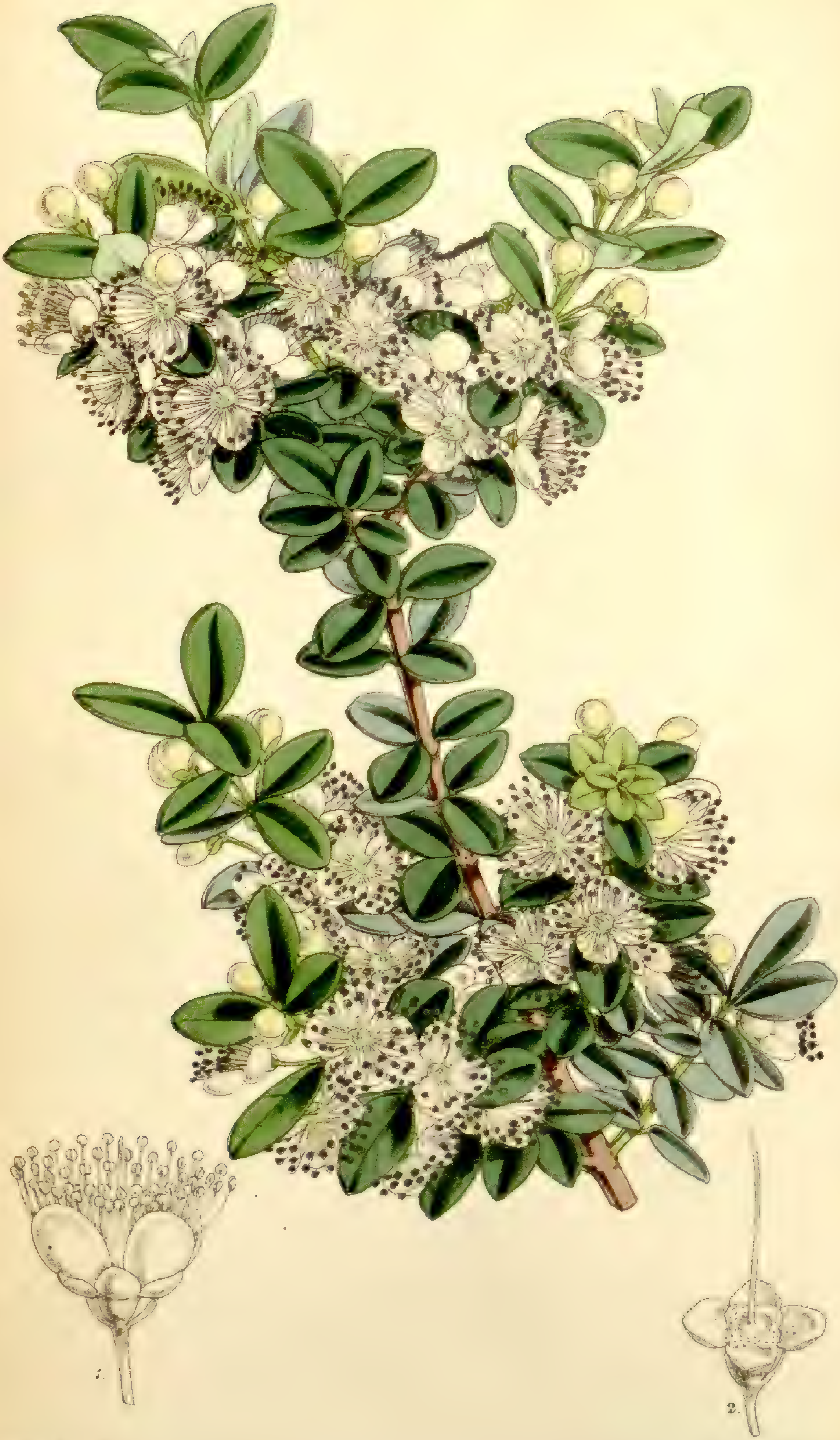
four- to six-flowered; rachis inclined, stout, green, terete. *Bracts* minute, green, broadly triangular-ovate. *Ovary* gibbous, pedicelled. *Sepals* an inch and three-quarters long, spreading, linear-lanceolate, acuminate, quite entire, and as well as the equally long but narrower petals, of a pale citron-green colour. *Lip* sessile on the apex of the column, orbicular-cordate, an inch and a quarterto an inch and a half in diameter, ivory-white, slightly concave, subacute, quite entire, smooth, with two small yellow calli at its base. *Column* stout, truncate and five-toothed in fruit, white like the lip.—*J. D. H.*

Fig. 1. Ovary and column. 2 and 3. Pollinia:—*magnified.*



W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5644.

MYRTUS CHEKEN.

Chequen of Chili.

Nat. Ord. MYRTACEÆ.—POLYANDRIA MONOGYNIA.

Gen. Char. Calycis tubus turbinatus, adnatus, ultra ovarium vix aut breviter productus; lobi 4–5, imbricati v. aperti. *Petala* 4–5, patentia. *Stamina* ∞, ∞-seriata, libera; antheræ basifixæ, rimis dehiscentes. *Ovarium* perfecte v. imperfecte liberum, 2-3- rarius 4-loculare; stylus filiformis, stigmate parvo v. rarius capitato; ovula in loculis ∞, angulo centrali inordinate ∞-seriatim affixa. *Bacca* calycis tubo inclusa, limbo coronata v. rarius limbo deciduo nuda. *Semina* perfecta 1–2–∞, subreniformia, testa ossea crustacea v. membranacea; embryo hippocrepicus v. parum involutus, radicula longissima tereti, cotyledonibus multo brevioribus nunc minimis.—Frutices, *rarius* arbores. Folia *opposita*. Pedunculi *axillares, sæpius graciles*, 1–3–7- *rarius* ∞-*flori*.

MYRTUS (Luma) *Cheken*; fruticosa, dense foliosa, ramulis glabris puberulis tomentosisve obscure 4-gonis foliisque glanduloso-punctatis, foliis patulis breviter petiolatis elliptico- v. oblongo-ovatis apiculatis basi obtusis acutisve utrinque glaberrimis nervis paucis indistinctis, pedunculis 1-floris foliis longioribus brevioribusve, bracteolis infra calycem subulatis, floribus ½ unc. diam. albis 4-meris, calycis lobis petalisque orbiculatis, petalis glabris ciliolatisve.

MYRTUS Cheken. *Spreng. Syst. Veg. v.* 2. *p.* 85, *excl. syn.*

EUGENIA Cheken. *DC. Prodr. v.* 3. *p.* 276. *Hook. et Arn. Bot. Beech. Voy.* 56. *C. Gay, Fl. Chil. v.* 2. *p.* 390.

LUMA Cheken. *A. Gray, Bot. U. S. Expl. Exped. v.* 1. *p.* 536. *t.* 66.

This is one of those pretty evergreen Chilian plants, so suitable for walls in all the milder parts of England, and for greenhouse decoration everywhere, but which is apt to be cut by a winter's cold below the average, and burnt by a long summer's drought, on the eastern side of the kingdom. Its nearest affinity is with the *Myrtus Luma* (*Eugenia Luma*, supra, Tab. 5040), which, indeed, is united (perhaps rightly) with it as a variety by A. Gray, but that plant has more distinctly apiculate leaves and usually three-flowered peduncles.

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Myrtus Cheken has been for some years in cultivation, and was introduced from Chili, I believe, by Messrs. Veitch. The plant from which the accompanying drawing was made flowered in Kew in July, 1866. In Chili it is in great repute as a medicine in cases of inflammation of the eyes, in diarrhœa, and in other disorders.

DESCR. A small, densely-leafy, much branched shrub. *Branchlets* obscurely tetragonous, glabrous pubescent or tomentose, covered with glandular dots. *Leaves* close-set, shortly petioled, one-third of an inch long, oblong-ovate or oblong, obtuse, apiculate or subacute, nearly flat, quite glabrous, nerves obscure. *Peduncles* solitary, usually one-flowered, shorter or longer than the leaves, slender. *Flower* two-thirds of an inch in diameter, white. *Calyx tube* turbinate, with two subulate bracts at the base; *limb* of four orbicular lobes. *Petals* orbicular, glabrous or ciliated. *Stamens* very numerous.—*J. D. H.*

Fig. 1. Flower. 2. The same, with the petals and stamens removed:—*magnified.*

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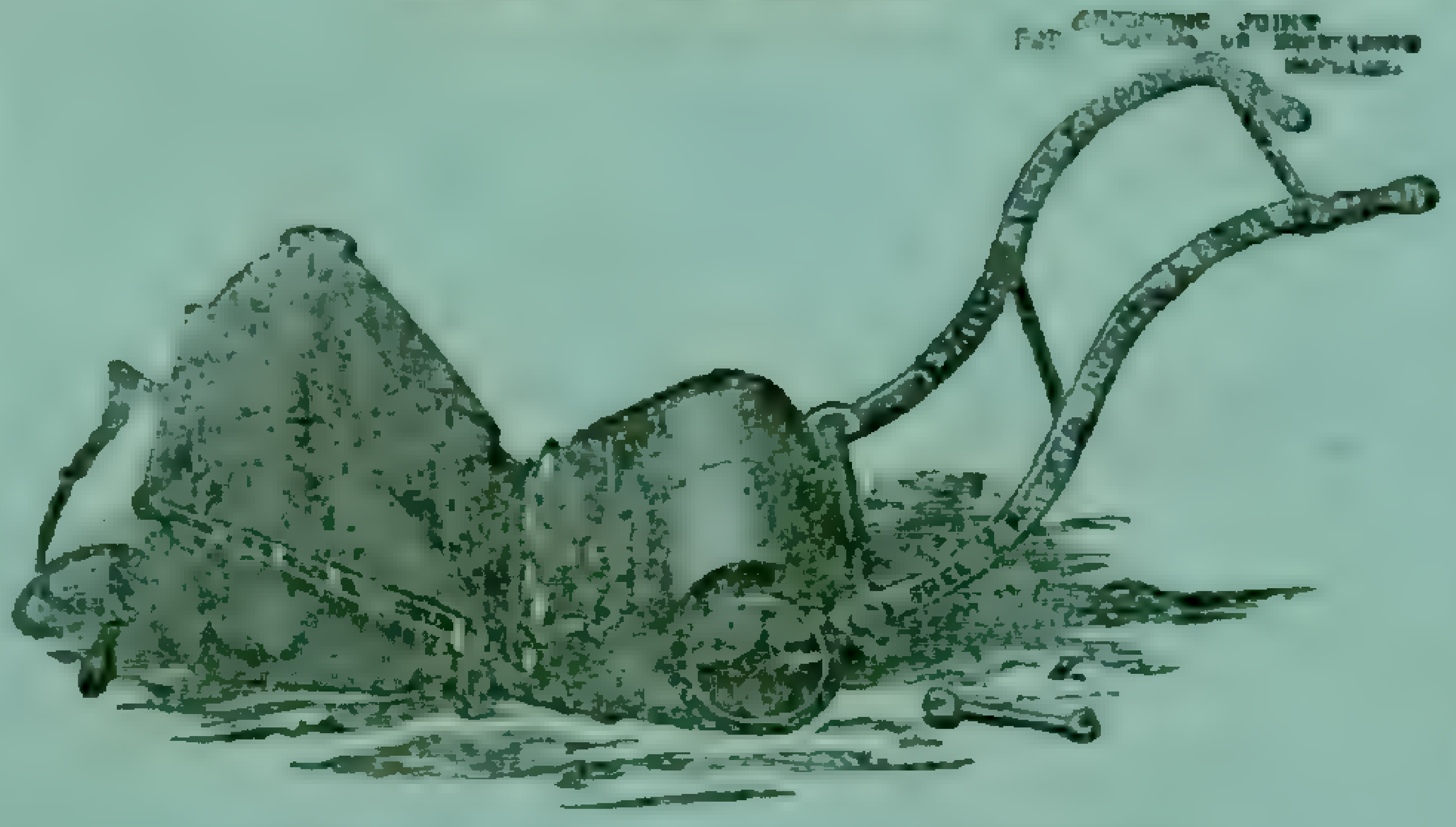

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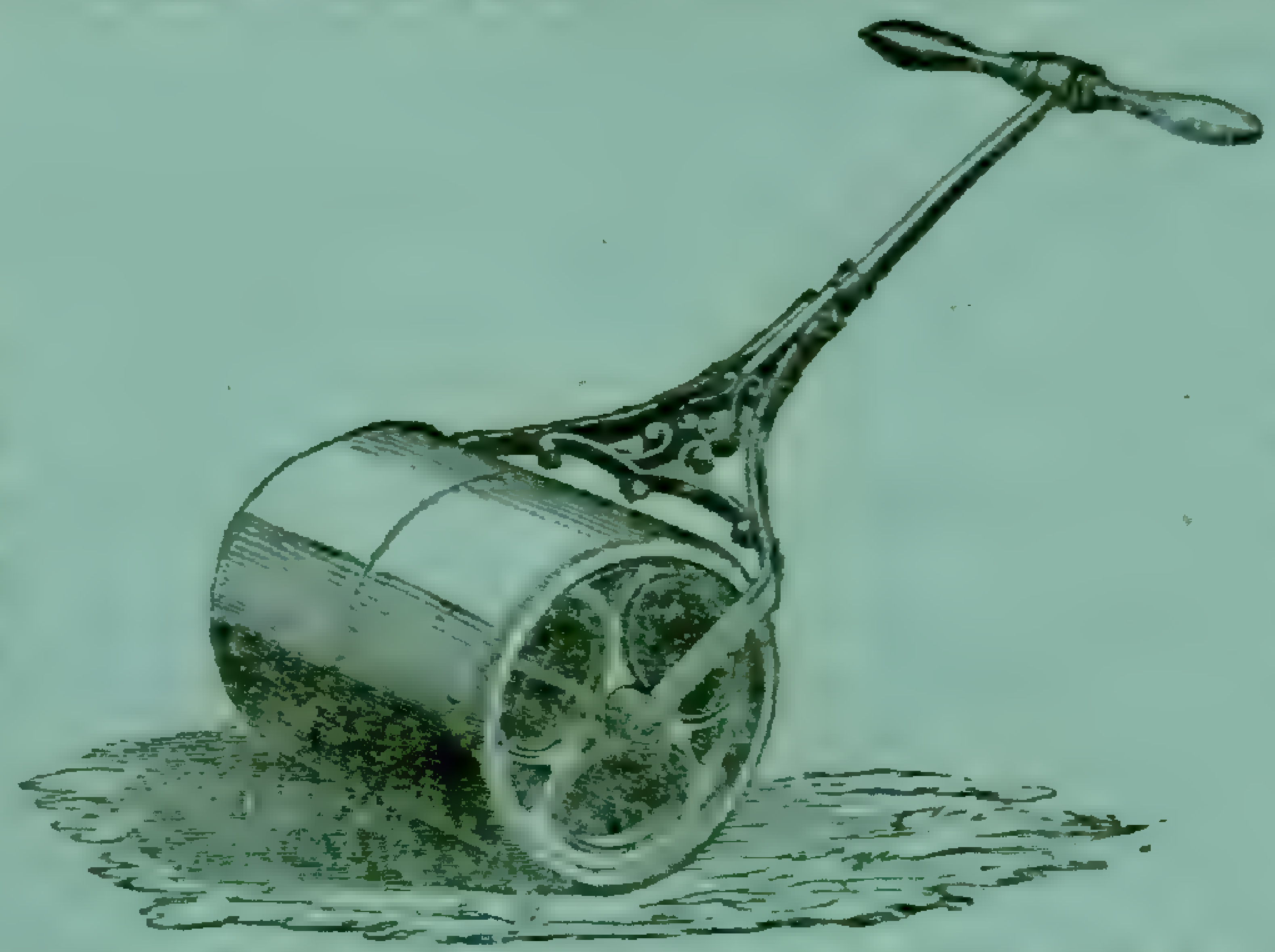

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Director of the Royal Botanic Gardens of Kew.

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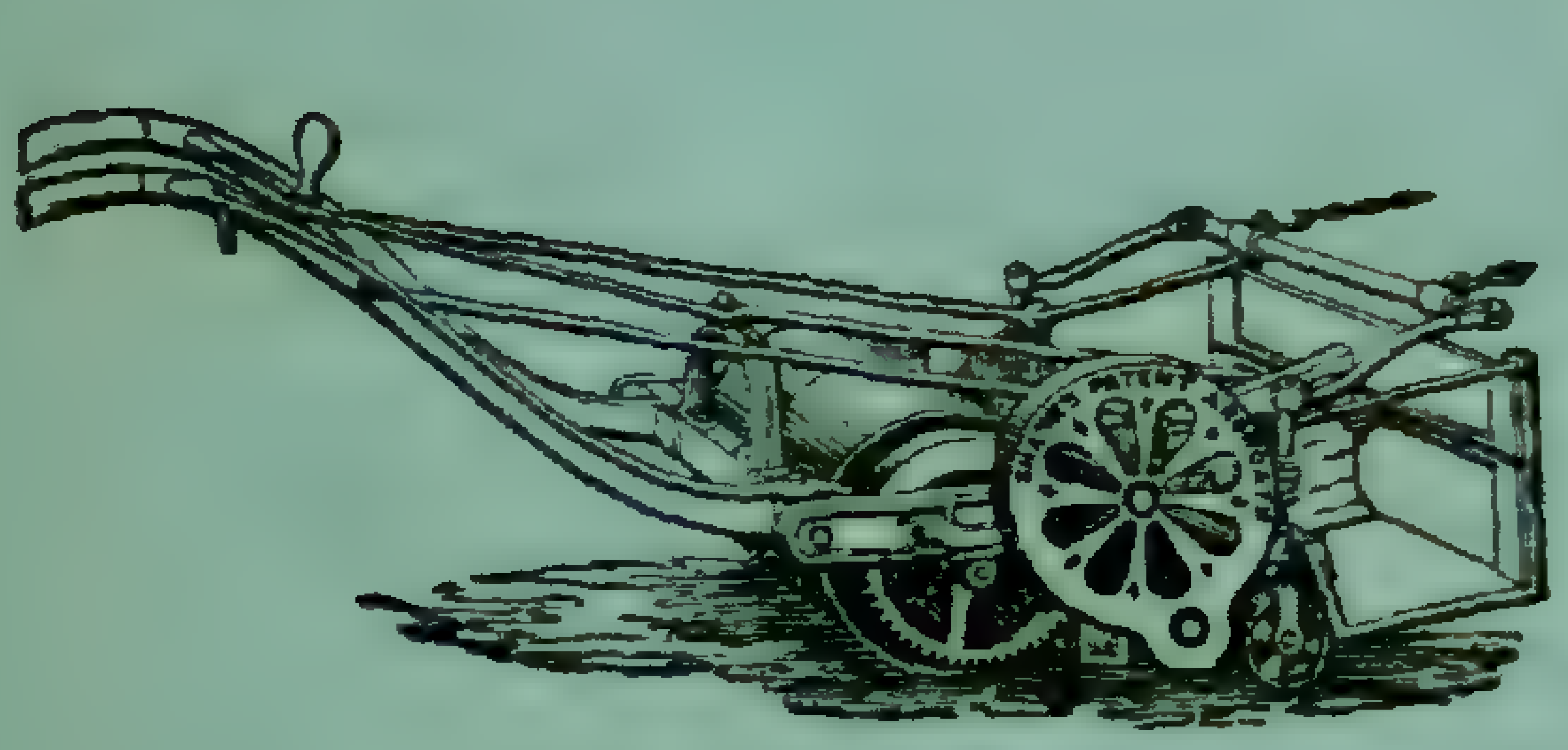
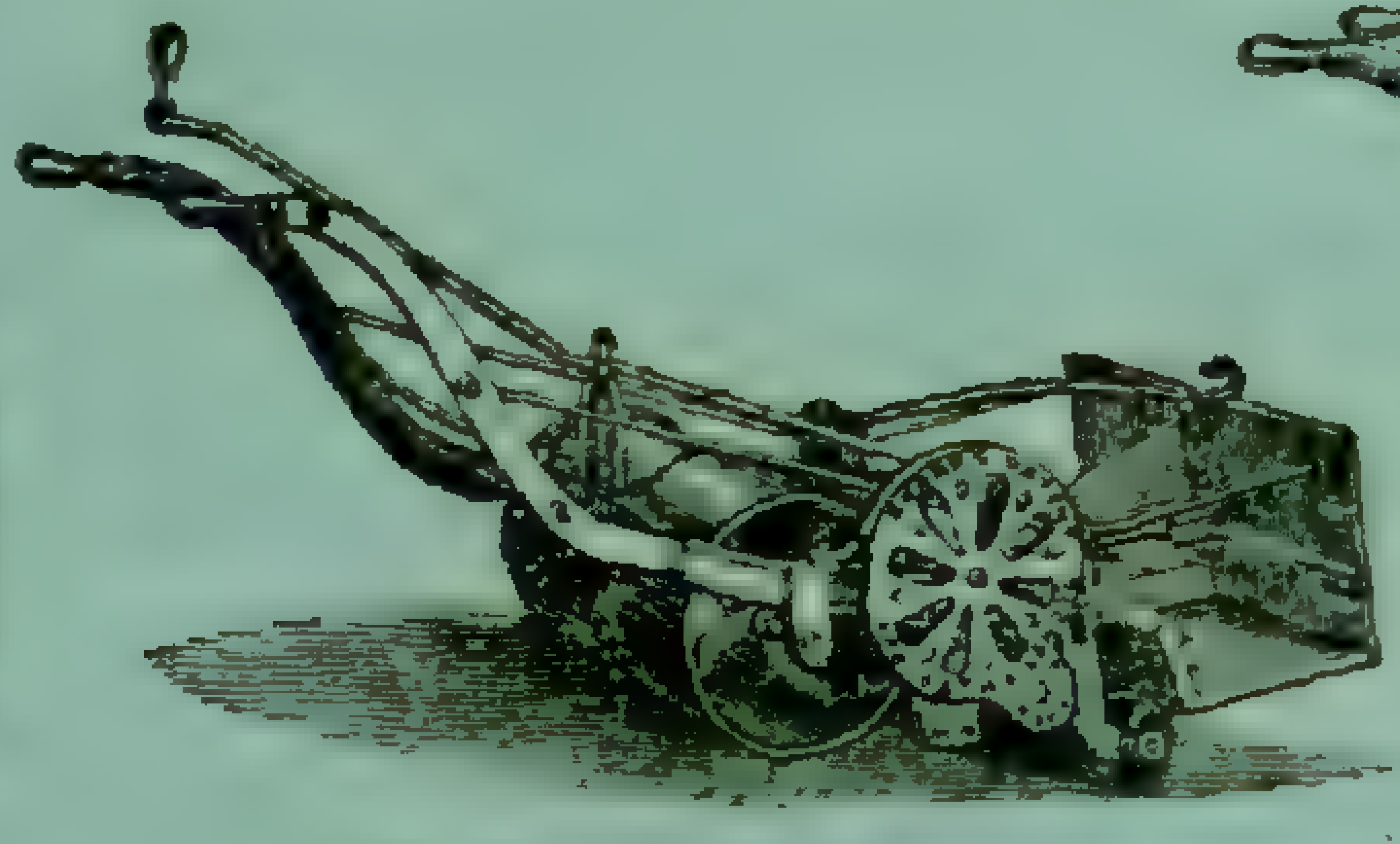


HORSE MACHINE.



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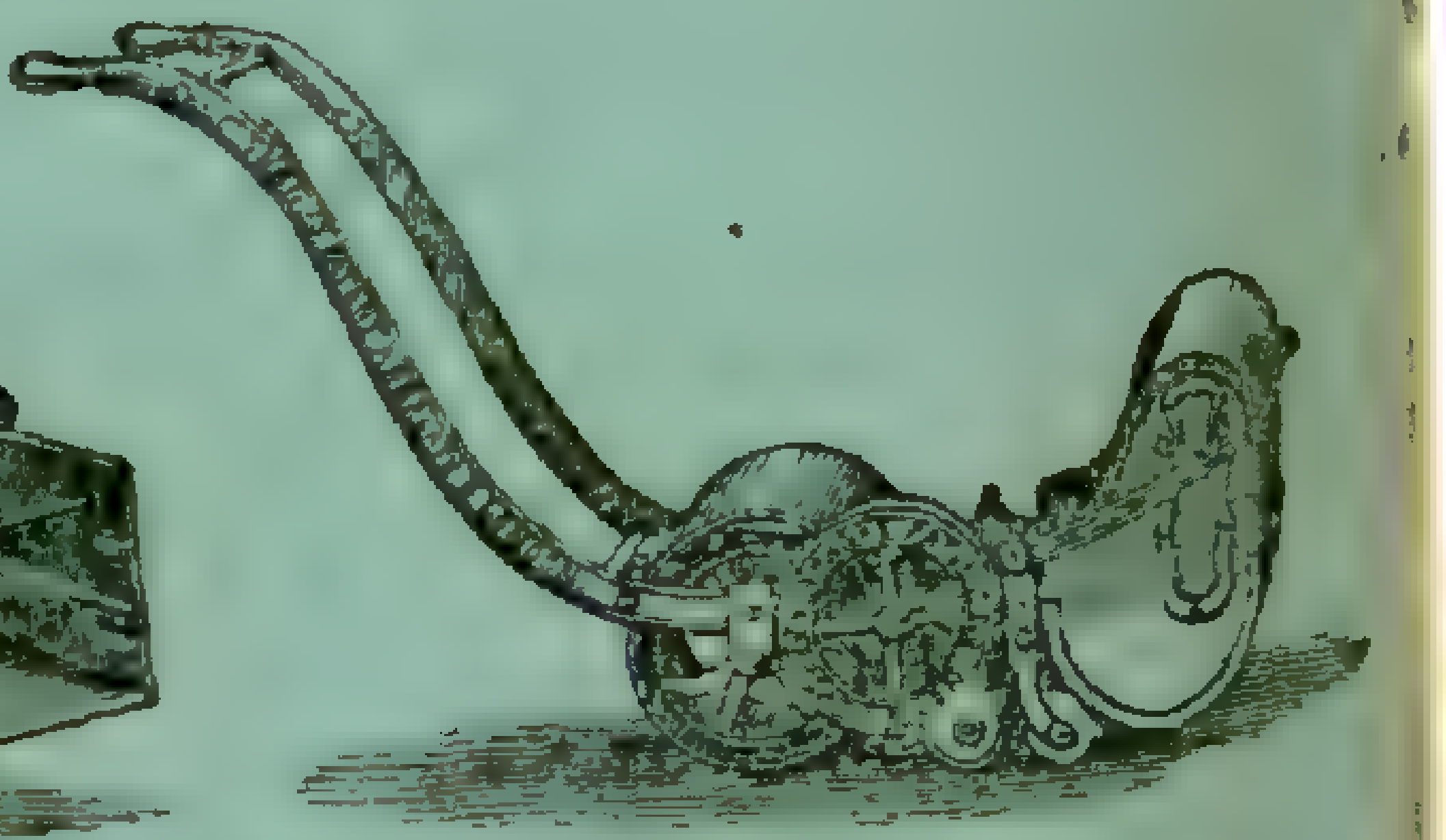

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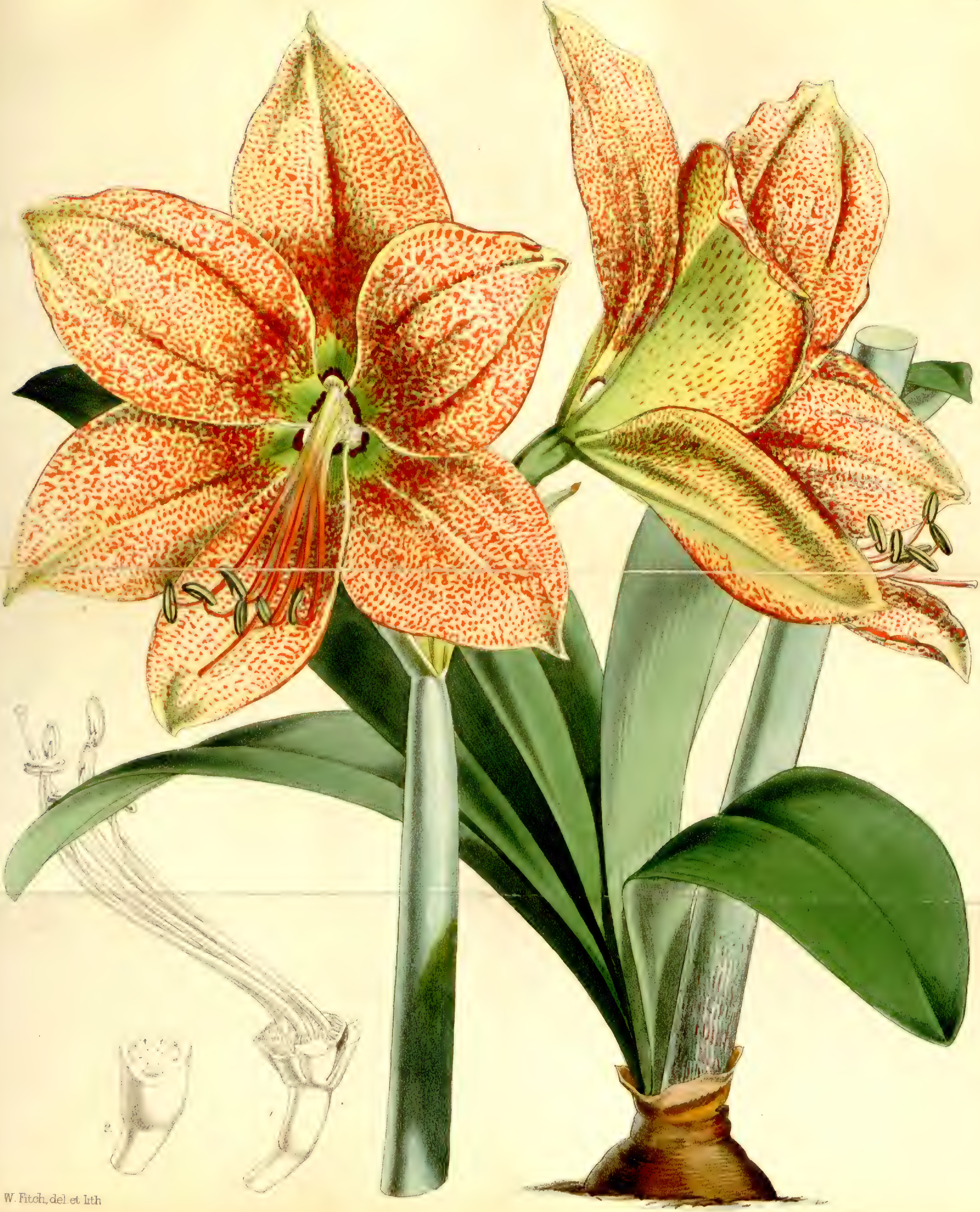

W. Fitch, del et lith

Vincent Brooks, Imp.

TAB. 5645.

AMARYLLIS PARDINA.

Spotted-flowered Amaryllis.

Nat. Ord. AMARYLLIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Perianthii tubus brevis v. 0, limbi subringentis lobis subæqualibus recurvis, fauce sæpius squamulosa. *Stamina* 6, fauce perianthii inserta, filamentis liberis erectis v. declinatis; antheræ versatiles. *Ovarium* 3-loculare; stylus elongatus, staminum directione, stigmate simplici v. 3-fido; ovula plurima. *Capsula* membranacea, oblongo-3-gona v. depressa, 3-locularis, 3-valvis. *Semina* plurima, globosa, compressa, marginata v. alata, v. interdum abortu solitaria, carnoso-baccata, loculum v. capsulam implens.—Herbæ tropicæ *et* subtropicæ, *bulbo tunicato.* Folia *scapo coætanea v. serotina.* Spatha 2-*valvis*, 1–∞-*flora.*

AMARYLLIS (§ Hippeastrum) *pardina;* elata, foliis bifariis flore coætaneis late linearibus obtusis scapo robusto glauco basi rubro maculato brevioribus, spathis 2-floris, perianthii 5–7 poll. diam. subinfundibuliformis tubo brevissimo intus fimbriato, lobis subæqualibus ovato-oblongis acutis pallide stramineis creberrime miniato-punctatis, staminibus declinatis subæqualibus, stigmate obscure 3-lobo.

A truly magnificent plant, discovered in Peru by Mr. Pearce, collector to Messrs. Veitch, of the Royal Exotic Nurseries, Chelsea, by whom it was flowered in March of the present year. It is certainly the most striking species of the genus known to me, and even Mr. Fitch's skill has failed to give full effect to the dazzling contrast of the bright vermilion spots on the translucent substance of the perianth. It is a stove plant of easy cultivation, and a worthy rival of the more temperate *Lilium auratum.*

The genus *Hippeastrum*, of Herbert, which includes many American species of *Amaryllis*, differs from this latter by such very slight and variable characters, that it cannot be regarded as of any practical value, and I therefore follow Endlicher in regarding it, together with its allies *Zephyranthes*, *Nerina*, *Vallota*, etc., as sections of the great and widely diffused and very natural genus *Amaryllis.*

DESCR. *Bulb* clothed with pale brown, membranous scales.

JUNE 1ST, 1867.

Leaves bifarious, recurved, appearing with the flowers, and then eight to ten inches long, by an inch and a half broad, pale green, linear or narrow-linear, oblong, obtuse, not striated. *Scape* as thick as the little finger, twelve to eighteen inches high, contracted at the apex, glaucous-green, speckled with red at the base. *Spathe* two-flowered; leaflets about as long as the pedicels, one to two inches, linear, membranous. *Ovary* short, green. *Perianth* five to seven inches in diameter; tubes very short, fimbriate inside; lobes broadly ovate-oblong, acute, spreading and recurved, nearly equal, pale straw-coloured, profusely covered with vermilion spots, verdigris-green at the base, with a dark purple band at their insertion. *Stamens* nearly equal, declinate; anthers green. *Stigma* very obscurely three-lobed.—*J. D. H.*

Fig. 1. Ovary, base of perianth, and stamen. 2. Transverse section of ovary:—*magnified.*

5646.

W Fitch, del.et lith.

Vincent Brooks Imp.

TAB. 5646.

BLETIA SHERRATTIANA.

Sherratt's Bletia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra,* TAB. 3319.)

BLETIA *Sherrattiana;* pseudobulbis depressis, foliis 3–4-plicatis utrinque acuminatis, scapis simplicibus apice racemosis subbrevioribus, floribus intense roseis, bracteis acuminatis ovario brevioribus, sepalis oblongo-lanceolatis obtuse acutis, petalis duplo latioribus, labelli trifidi lobis lateralibus apertis rotundatis maximis planis, intermedio multo minore reniformi medio apiculato, lamellis 3 aureis parallelis totum axim labelli percurrentibus. Columna clavata, arcuata, haud conspicue alata. —*Bateman.*

This, which is perhaps the prettiest of the true Bletias, is a native of New Granada, whence the Messrs. Low imported it about the year 1864. In its habit it is so similar to the old and well-known *B. verecunda* that it was quite a surprise to me when the spikes of bright-rosy flowers showed themselves in all their distinctness and beauty. As the plant is quite new, I have named it after my gardener, Mr. Sherratt, who almost from a child has been specially devoted to Orchids.

As regards culture that, of course, is of the simplest character. Being terrestrial, it requires a large pot, and being found at a lower level than most of the New Granada species, it can scarcely be classed among "cool" Orchids. The Cattleya or intermediate house seems to suit it well.

DESCR. *Pseudobulbs* flattened, about two inches across. *Leaves* three or four, plicated, acuminate at either end, raised upon an upright, greenish stalk, including which they are nearly a yard long. *Bracts* acuminate, shorter than the ovaries. *Flowers* of a very delicate texture, a dozen or more in a somewhat dense terminal mass, bright rose-colour. *Sepals* about an inch long, oblong-lanceolate, bluntish. *Petals*

JUNE 1ST, 1867.

twice as broad, rounded. *Lip* longer than the petals, deeply three-cleft, the lateral lobes being thrown wide open and rounded, very much larger than the intermediate one, which is kidney-shaped, emarginate, and apiculate. Three parallel golden lamellæ traverse the entire length of the axis of the lip, from whence a network of veins radiates. *Column* arched, clavate, much shorter than the lip.—*J. B.*

Fig. 1. Lip spread flat. 2. Column. 3. Side view of pollen-masses. 4. Front view of ditto :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5647.

BILLBERGIA SPHACELATA.

Chupon of Chili.

Nat. Ord. BROMELIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 5502.)

BILLBERGIA *sphacelata;* caule brevi robusto, foliis numerosis carnoso-congestis 4–5-pedalibus anguste ensiformi-lanceolatis concavis viridibus remotiuscule spinulosis, floribus in capitulum axillare sessile dense congestis, bracteis subulatis spinuloso-serratis medio sphacelatis, sepalis dimidiato-lanceolatis acuminatis integris v. uno latere 1-dentatis, petalis erectis obtusis basi intus 2-tuberculatis, filamentis breviusculis compressis, antheris apiculatis, stigmatibus lineari-subulatis vix tortis.

BROMELIA sphacelata. *Ruiz et Pav. Prodr. v.* 3. *p.* 32. *Gay, Fl. Chili, v.* 6. *p.* 8.

GREIGIA sphacelata. *Regel, Gartenflora, v.* 14. *p.* 137. *t.* 474.

This very handsome Bromeliaceous plant, conspicuous for its magnificent crown of leaves, each from four to five feet long, flowered in the Royal Gardens, Kew, in October, 1866, from specimens sent by Dr. Regel from the Imperial Botanic Gardens of St. Petersburg. Though not altogether corresponding with the *Greigia sphacelata* described and figured by Dr. Regel in the 'Gartenflora,' I can hardly doubt its being that plant, both from its origin and habitat. The differences are that Regel's plant is represented as having obtuse anthers, whereas in the Kew plant the anthers are strongly mucronate. In Ruiz and Pavon's description the flowers are said to be purple, which is not the case with our plant.

Billbergia sphacelata is a native of temperate Chili, near Concepcion, in lat. 37° S., where it is called Chupon, and the sweet pulpy fruits, which are greedily eaten by children, are called Chupones.

DESCR. *Stem* very short. *Leaves* numerous, densely crowded, bright green and shining, erecto-patent and recurved, four to five feet long, dark-green, narrow-lanceolate ensiform, one inch broad, concave, not keeled nor striate, with rather distant spines on the margins, which are recurved, gradually tapering to the acuminate apex. *Head of flowers* axillary, short, very many-flowered, sunk amongst the leaves near the crown or at the side of the stem, much depressed. *Bracts* longer than the flowers, erect subulate-lanceolate, spinous-ciliate, whitish, with greenish tips, and brown across the middle. *Flowers* pale rose-red, an inch and a half long. *Ovary* smooth. *Sepals* dimidiate-lanceolate, with often a deep tooth on one side. *Corolla* tube rather shorter than the linear-oblong, obtuse lobes, which have a thickened two-lobed scale or two tubercles at the base. *Filaments* subulate, compressed. *Anthers* linear, with a terminal mucro. *Stigmas* three, linear-subulate, hardly twisted.—*J. D. H.*

Fig. 1. Flower. 2. Corolla tube, lobe, and stamens. 3. Germen:—*all slightly magnified.*

5648.

W. Fitch, del et lith

Vincent Brooks Imp

TAB. 5648.

STEMONACANTHUS PEARCEI.

Mr. Pearce's Stemonacanthus.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. Calyx profunde 5-fidus, æqualis. *Corollæ* tubus elongatus, curvus, sensim ampliatus; limbus ringens, 2-labiatus, 6-lobus, lobis patentibus v. reflexis. *Stamina* 4, exserta, infra os tubi inserta, filamentis per paria connatis; antheræ oblongæ, 2-loculares, loculis contiguis. *Stigma* 2-fidum, lobis angustis. *Capsula* basi contracta, asperma, superne 4–8-sperma. *Semina* planiuscula, retinaculis suffulta.—Suffrutices Americani. Folia *opposita v. inferiora 3-na.* Inflorescentia *axillaris v. terminalis, laxa v. densa.* Bracteæ *parvæ v. angustæ.* Flores *coccinei, ebracteolati v. 2-bracteolati.*

STEMONACANTHUS *Pearcei;* caule acute 4-gono, foliis breviter petiolatis lanceolatis longe acuminatis obtuse serratis glaberrimis subtus fusco-purpureis, paniculis axillaribus paucifloris, pedunculis petiolis paulo longioribus, calycis pilosuli lobis subulatis, corollæ 2–2½-pollicaris tubo gracile lobis revolutis, ovario glanduloso.

Of the beautiful American Acanthaceous genus *Stemonacanthus*, very few species have hitherto been introduced into this country, though our herbaria contain several that are eminently worthy of cultivation. But one, *S. macrophyllus*, (Tab. nostr. 4448,) has been figured previously in this Magazine; it resembles the present in habit and general characters, but has a much more lax inflorescence.

S. Pearcei is a stove plant, native of Bolivia, where it was discovered by Messrs. Veitch's able collector, whose name it bears, and flowered in the Royal Exotic Nurseries in March of the present year. I find no described species near it in characters, but think it possible that it may be identical with *Arrhostoxylum Hænkeanum*, Nees (in DC. Prod. v. 11, t. 211), which, though placed by its author in a genus which differs from *Stemonacanthus* chiefly in the obtuse calyx-lobes, is nevertheless itself described as having subulate calyx-lobes.

DESCR. An erect, glabrous undershrub. *Branches* acutely quadrangular, stout. *Leaves* shortly petioled, five to six inches long, lanceolate, long-acuminate, obtusely serrate, green above, brown-purple below, with very prominent veins. *Peduncles* axillary, patent, few-flowered, rather longer than the petioles. *Bracts* linear; *bracteoles* none, or one or two subulate. *Calyx* half to three-fourths of an inch long, divided below the middle into subulate, erect lobes. *Corolla* scarlet, two to two and half inches long, erect; *tube* slender, slightly curved, gradually dilated upwards, compressed; *lobes* recurved or revolute. *Anthers* shortly oblong, two-celled; *cells* contiguous, red-purple. *Ovary* glandular.—*J. D. H.*

Fig. 1. Calyx and bracteole. 2. Stamens. 3. Anther. 4. Ovary:—*all magnified.*

5649.

W. Fitch, del et lith

Vincent Brooks, Imp.

TAB. 5649.

DENDROBIUM MACROPHYLLUM; var. *Veitchianum.*

Large-leaved Dendrobe; Veitch's var.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra,* TAB. 4755.)

DENDROBIUM *macrophyllum;* caulibus basi teretibus superne clavatis profunde sulcatis 2–3-phyllis, foliis sessilibus oblongis apice oblique 2-fidis v. emarginatis, racemo terminali erecto elongato apice nutante multifloro, bracteis membranaceis acutiusculis, pedicellis sepalisque ovato-oblongis extus hirsutis, petalis spathulatis acutis flavidis, labello magno 3-lobo, lobis lateralibus adscendentibus reniformibus purpureo-flabellatim striolatis, intermedio transverse dilatato convexo flabellatim maculato obscure 3-dentato.

DENDROBIUM macrophyllum. *A. Rich. Sert. Astrolab. p.* 22. *t.* 6.

Var. *Veitchianum;* foliis minoribus. D. Veitchianum. *Lindl. Bot. Reg.* 1847, *sub. t.* 25.

The true *D. macrophyllum* of A. Richard, a native of New Guinea, is one of the finest of Orchids, having leaves upwards of a foot long and a spike twice as long: the plant here introduced differs only in the smaller leaf from Richard's figure and description, and is clearly a variety of that species. It was named after its introducers, Messrs. Veitch, by Dr. Lindley, who seems to have overlooked Richard's plant, or he would surely otherwise have alluded to it as a close ally at any rate. Our specimen of var. *Veitchianum* was flowered by Messrs. Backhouse, of York, in February of the present year, and I am indebted to my friend Dr. Reichenbach for its identification, as also for the information that *D. ferox*, of Hasskarl, is another of its many varieties, which inhabit the Javan and Sumatran hills.

The var. *Veitchianum* is a native of Java, whence it was sent to England by the late Mr. Thomas Lobb, one of the most indefatigable and successful of Messrs. Veitch's collectors. It inhabits the hottest jungles of the hottest climate in

the globe, and must be treated accordingly, and even then, as Mr. Bateman informs me, it is difficult to flower.

DESCR. *Stems* tufted, eight to twelve inches high, terete and as thick as a goose-quill below, expanding upwards into a club-shaped, deeply grooved pseudobulb, that bears two or three terminal or subterminal leaves. *Leaves* four to six inches long in this variety, sessile, oblong, pale green, nearly plane, unequally two-lobed at the very tip. *Raceme* a foot and upwards high, erect, nodding at the apex, many-flowered. *Bracts* linear-oblong, membranous. *Pedicels* short, nearly glabrous. *Ovary* and back of *sepals* hirsute. *Flowers* two inches in diameter. *Sepals* ovate-oblong, acute, greenish-yellow, paler inside. *Petals* smaller, spathulate, dirty-white. *Lip* large, three-lobed; lateral lobes subreniform, ascending, yellow-green with radiating purple streaks; middle lobe transversely oblong, convex, obscurely three-lobed, green, with a few radiating dotted lines.—*J. D. H.*

Fig. 1. Lip. 2. Column. 3, 4. Pollen:—*all magnified.*

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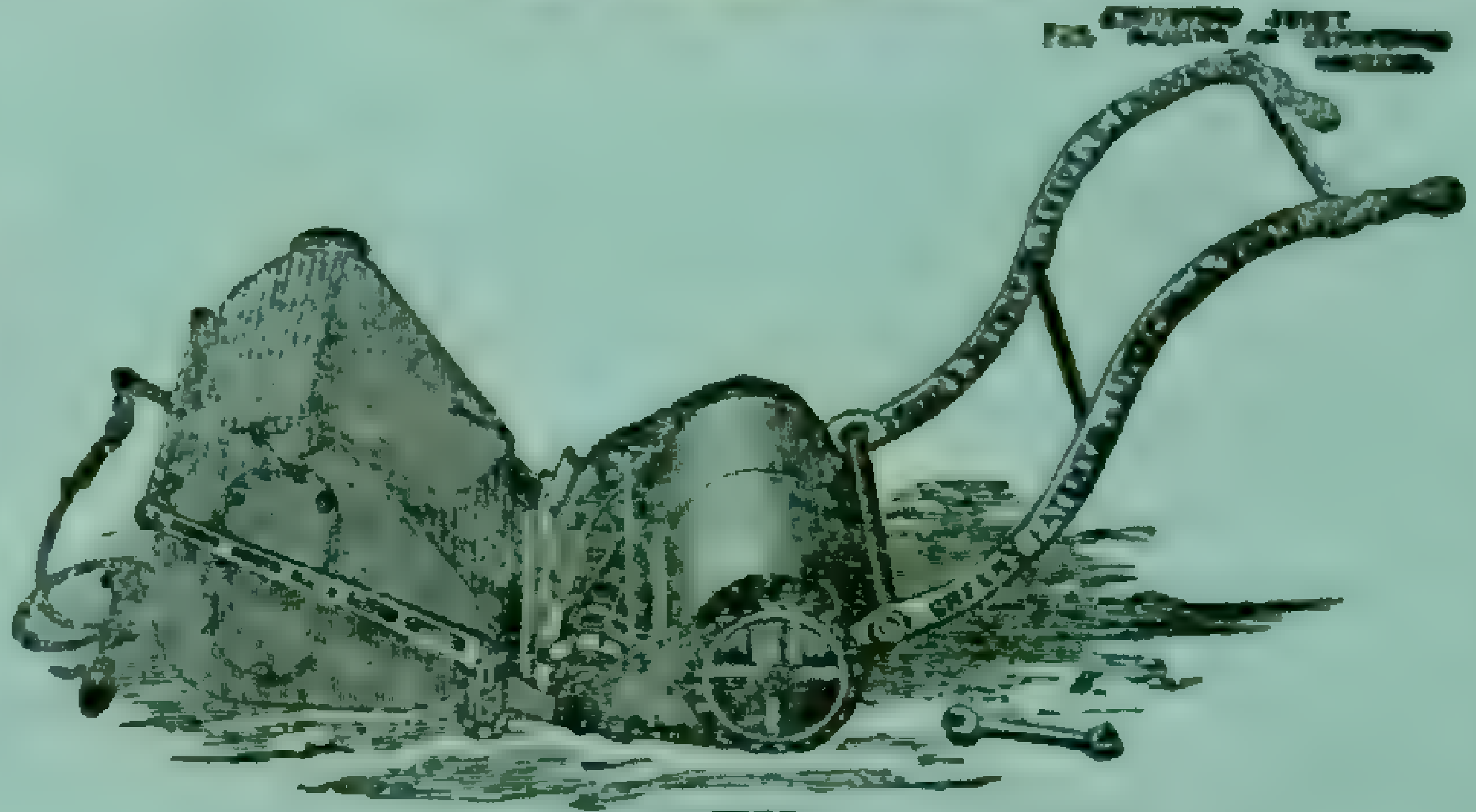

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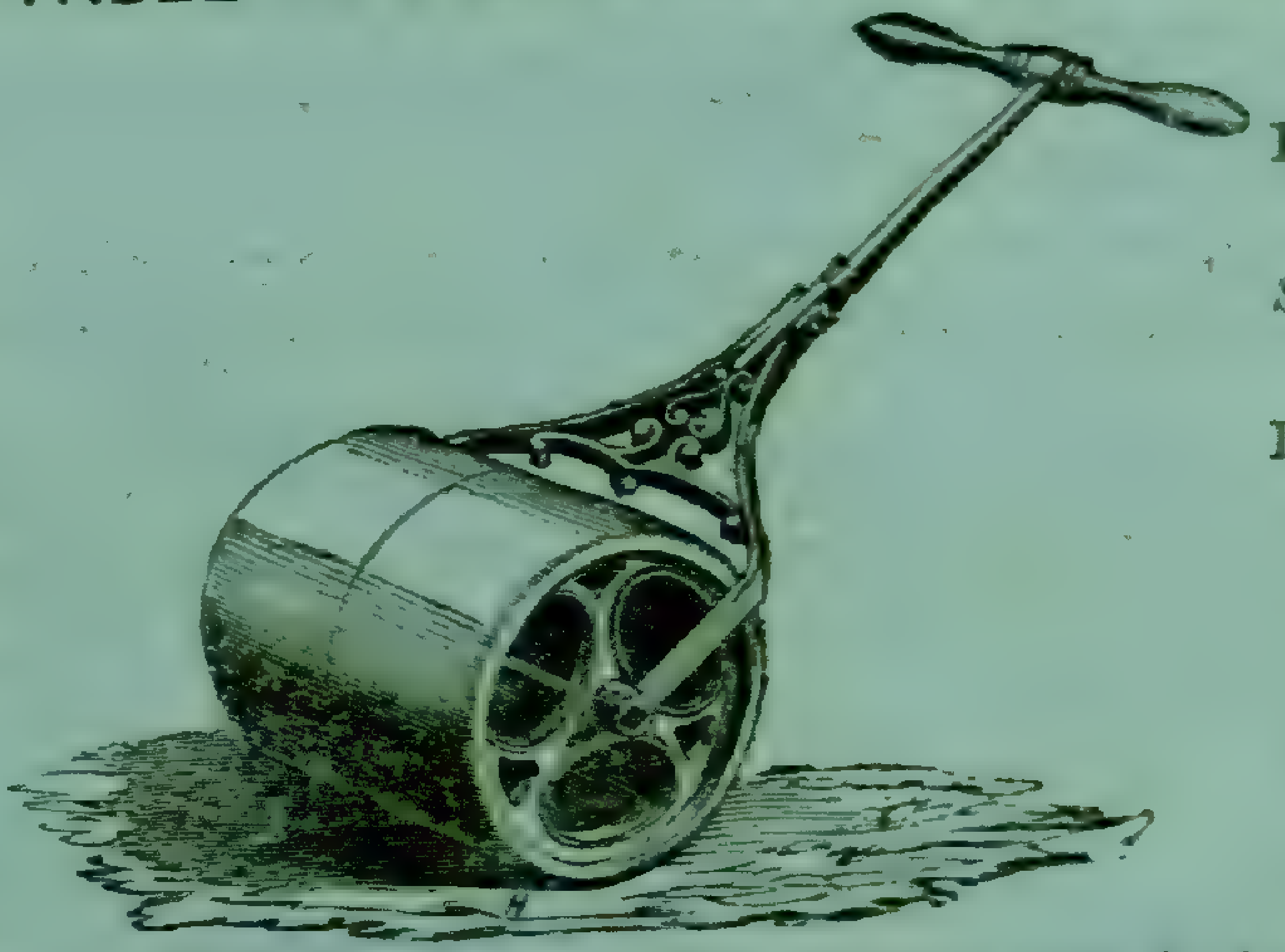

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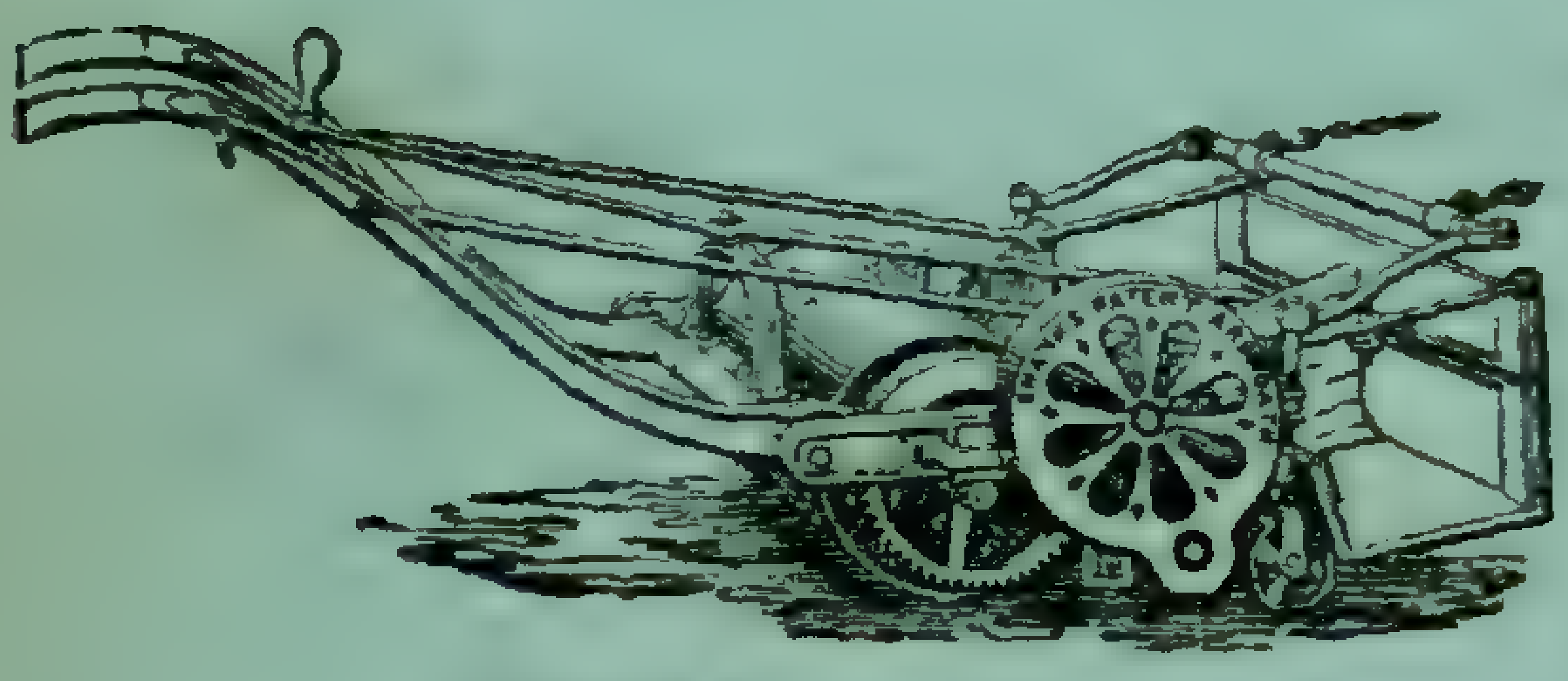

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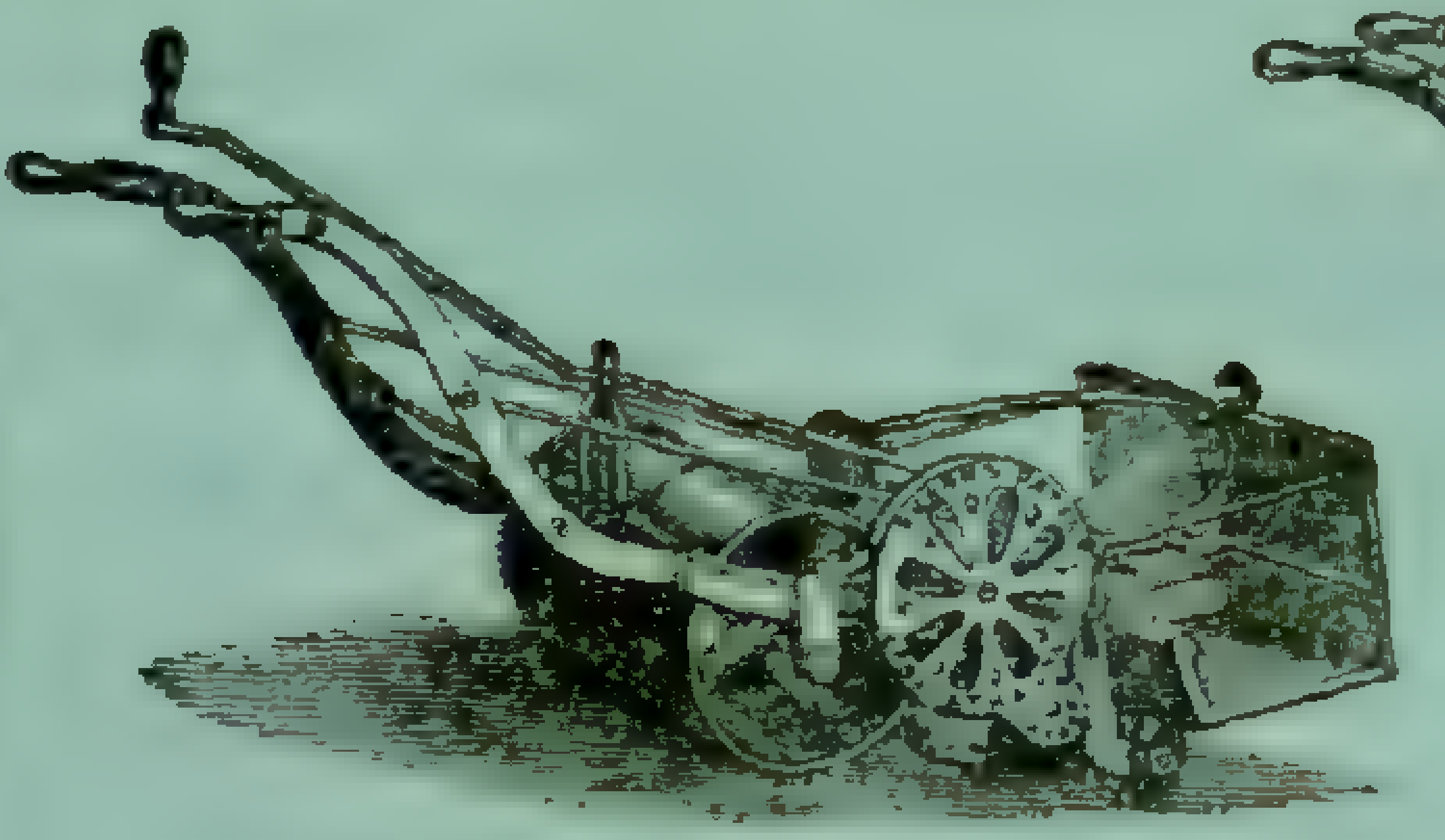

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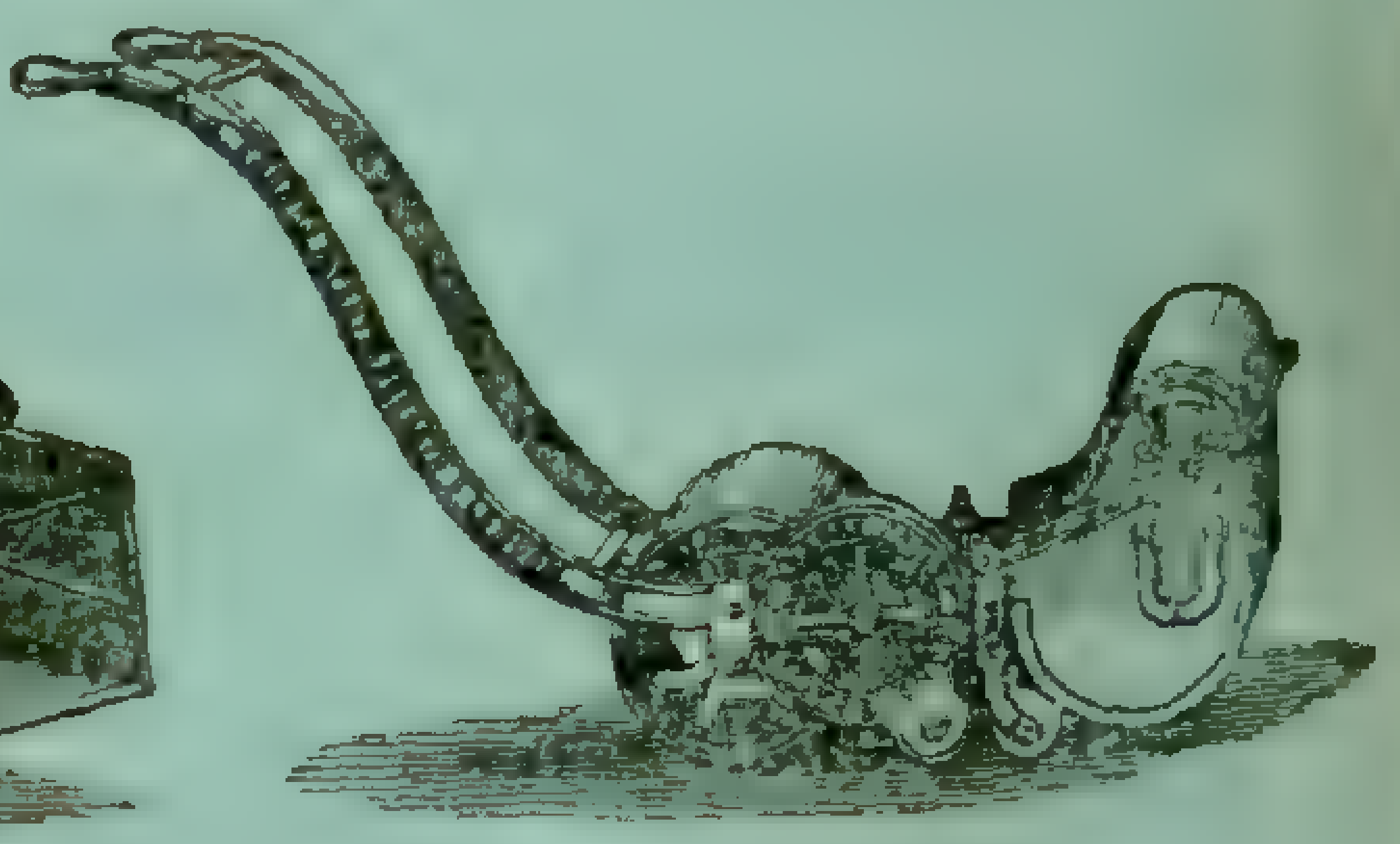

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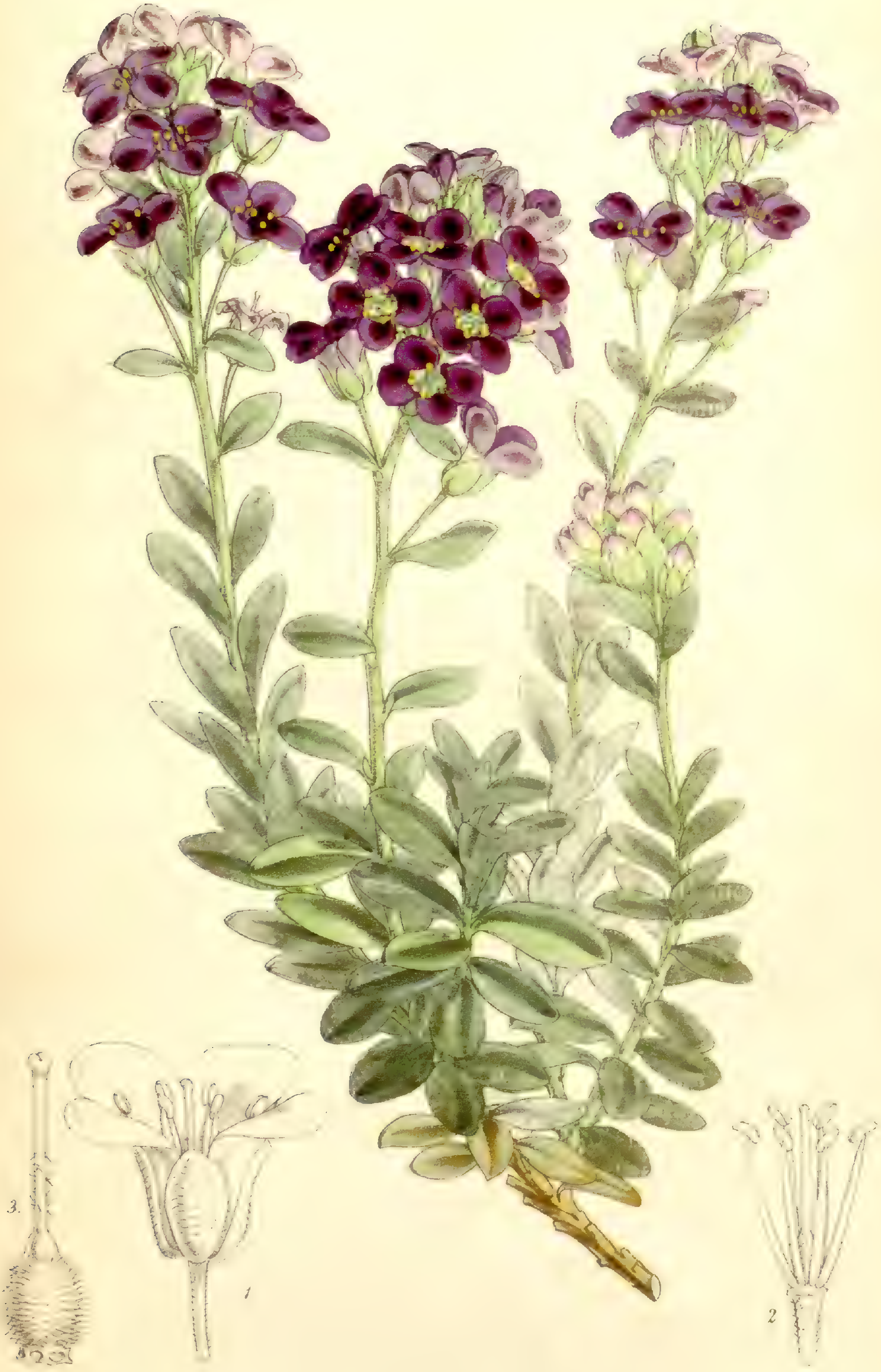
TAB. 5652 *is unavoidably postponed till next month.*



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TAB. 5650.

DRABA VIOLACEA.

Violet-flowered Draba.

Nat. Ord. CRUCIFERÆ.—TETRADIDYNAMIA, SILICULOSA.

Gen. Char. *Sepala* brevia, æqualia. *Stamina* simplicia. *Siliqua* elliptica oblonga v. raro linearis, compressa, polysperma, rarius oligosperma, valvis planiusculis rarissime costatis, septo membranaceo; stylus brevis v. elongatus, stigmate simplici. *Semina* 2-seriata, immarginata, funiculis setaceis; cotyledones accumbentes.—Herbæ *sæpissime parvæ, cæspitosæ, pube stellata incanæ.* Folia *integra, radicalia sæpe rosulata.* Scapi caulesve *nudi v. foliosi, foliis sessilibus.* Flores *ebracteati v. inferiores foliaceo-bracteati, sæpe parvi, albi v. aurei, rarius rosei v. purpurei.*

DRABA *violacea;* fruticulus suberectus, ramosus, ubique incano-tomentosus, caulibus basi nudis cicatricatis superne longe foliatis, foliis brevibus laxe imbricatis obovato-oblongis obtusis subspathulatisve integerrimis v. obtuse dentatis, floribus subcorymbosis violaceis, pedicellis inferioribus foliaceo-bracteatis elongatis, siliqua oblonga recta v. curva in stylum elongatum acicularem angustata.

DRABA violacea. *DC. Prod. v.* 1. *p.* 171. *Hook. Ic. Pl. t.* 35.

DRABA Bonplandiana. *H. B. et K. Nov. Gen. et Sp. v.* 5. *p.* 78.

It is seldom that a species of so obscure a genus as *Draba* possesses such horticultural attractions as to claim a place in the 'Botanical Magazine;' but such is the case with the present plant, which is further very interesting on account of its locality, for it attains almost as great an elevation on the lofty Andes as any Phænogamic plant. It was discovered by Humboldt and Bonpland near Quito, and has since then been gathered repeatedly by Professor Jameson, of that city, who sent seeds to his friend I. Anderson Henry, Esq., F.L.S., of Hay Lodge, Edinburgh, and from whom living plants in flower were received at Kew in March of the present year. Professor Jameson describes it as of rare occurrence, and growing in loose rocks and walls at elevations of 13–15,000 feet. It was figured by my father as long ago as 1837, in the 'Icones Plantarum,' with the remark, "This would indeed be a lovely plant to introduce into our gardens."

JULY 1ST, 1867.

The genus *Draba*, so abundant in the mountains of Northern Europe, is even more characteristic of the Andes of tropical America, where many species, including most of the finest of the genus, are to be found.

DESCR. A densely hoary-tomentose shrubby-stemmed *herb*, a foot or so high. *Branches* naked and scarred below, clothed above with imbricating obovate or obovate-spathulate leaves. *Leaves* about half an inch long, obtuse, equally tomentose on both surfaces, obtuse, entire or obtusely toothed. *Scapes* leafy. *Flowers* subcorymbose; lower pedicels slender, arising from the axils of the uppermost leaves. *Flowers* nearly half an inch diameter. *Sepals* suberect, oblong. *Petals* obovate-spathulate. *Pod* about a third of an inch long, oblong, acute at both ends, very flat, straight or curved, narrowed into an acicular long style.—*J. D. H.*

Fig. 1. Flower. 2. Stamens. 3. Ovary, style, and stigma:—*all magnified.*

5651.

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TAB. 5651.

IPOMŒA GERRARDI.

Gerrard's Ipomœa.

Nat. Ord. CONVOLVULACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5330.)

IPOMŒA *Gerrardi;* caule lævi volubili, petiolis pedunculis sepalis foliisque subtus ad nervos laxe albo-lanatis v. araneosis, foliis rotundato-cordatis obtusis acuminatisve obscure sinuatis integerrimis supra glabris, pedunculis axillaribus solitariis 1-floris 2-bracteolatis, bracteolis brevibus obtusis persistentibus, sepalis mediocribus oblongis obtusis concavis, floribus amplis albis suaveolentibus, seminibus dense et copiose fusco-lanatis.

Of this very fine plant the seeds have several times been sent to Kew from Natal, where it seems to be known as "wild cotton;" the first were received in 1857, from our excellent correspondent Dr. Sutherland, Surveyor-General of the colony; and from a plant reared from these the drawing here published was made. It forms a tuberous stock above the earth as large as the fist, from which annual stems shoot, attain a length of ten to fifteen feet, and flower copiously. It succeeds well in the moderate heat of the Palm stove, flowering about August. The seeds were exhibited as "wild cotton" in the Great Exhibition of 1862, and attracted some attention as a possible substitute for cotton, the cotton famine at that time raging.

As a species, *I. Gerrardi* is closely allied to *I. albivenia*, Don, of Zanzibar (*Convolvulus albivenius*, Lindl. Bot. Reg. t. 1116), but that plant is more woolly, the stems are tubercled, the bracts are long and linear, and the inside of the (much smaller) corolla tube is purple. I have named it after a most indefatigable collector, Mr. Gerrard, of Natal, who sent dried specimens to Sir W. Hooker, and who, after exploring the countries to the northward of Natal, proceeded with impaired health as a naturalist to Madagascar, where he soon succumbed to that pestilential climate.

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DESC. *Stems* numerous, from a stout woody root-stock, ten to fifteen feet long, twining, not tubercled, cobwebby or covered with thin white wool, as are the petioles, nerves of the leaves below, peduncles, and sepals. *Leaves* on terete petioles two to four inches long, rounded-cordate, four to five inches long, obtusely or acutely acuminate, obscurely sinuate. *Peduncles* axillary, solitary, one-flowered, shorter than the petioles, stout, terete. *Bracts* very small, short, ovate, obtuse, persistent. *Sepals* two-thirds of an inch long, concave, obtuse. *Seeds* densely four inches in diameter, very sweet-scented. *Corolla* white, clothed with brown wool.—*J. D. H.*

Fig. 1. Disk and pistil. 2. Seed with its woolly covering. 3. The same removed:—*all but Fig.* 1 *of the nat. size.*

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TAB. 5652.

DENDROBIUM BULLERIANUM.

Mr. Wentworth Buller's Dendrobium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4755.)

DENDROBIUM *Bullerianum;* caulibus suberectis striatis foliosis (floriferis aphyllis), foliis ovato-lanceolatis acutis, floribus geminatis vel ternatis, bracteis ovatis acutis pedicellis 5-plo brevioribus, sepalis petalisque (paulò latioribus) lanceolatis acutis, labello integro latè ovato acuto maculâ magnâ circulari aureâ supra discum. *Bateman.*

DENDROBIUM gratiosissimum. *Hort.*

A few plants of this pretty Dendrobium were imported two or three years ago from Moulmeine by the Messrs. Hugh Low and Co. of Clapton, to whom they had been sent—like so many other additions to this beautiful genus—by their indefatigable correspondent, Mr. Parish. In structure it is perhaps most nearly allied to *D. crepidatum*, from whence the form of the lip abundantly distinguishes it; while in the size and colouring, and general effect of its flowers, it somewhat resembles the otherwise very different *D. Devonianum.*

Mr. Wentworth Buller, one of our most zealous Orchidologists, having been the first to flower this plant in his very rich collection at Strete Raleigh, Devon, I have great pleasure in naming the plant in his honor. He describes it as of very easy cultivation in the Dendrobium house, where it flowers in the spring.

DESCR. *Stems* nearly erect, slender at the base, and rising to upwards of a foot in height, striated, leafless when flowering. *Leaves* ovate-lanceolate, two or three inches long, sharp-pointed, falling off before the flowers appear. *Bracts* ovate, acute, five times longer than the pedicels. *Flowers* in twos and threes, of a creamy white, faintly tipped with rose. *Sepals*

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oblong-lanceolate; *petals* wider than the sepals, ovate-lanceolate, acute. *Lip* broadly ovate, acute, its edges entire, and its disc decorated with a large, rich, circular yellow spot, which is streaked with reddish-orange lines.—*J. B.*

Fig. 1. Column and base of lip. 2. Lip spread out: —*slightly magnified.*

5653.

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Tab. 5653.

RUDGEA MACROPHYLLA.

Large-leaved Rudgea.

Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

Gen. Char. Calycis tubus subglobosus; lobi 5, acuti. *Corolla* subinfundibuliformis; tubus gracilis, fauce nuda; lobi 5, erecto-patentes v. reflexi, subconcavi, apice 3-quetro incurvo v. deflexo. *Stamina* 5, corollæ fauce inserta, inclusa, filamentis brevibus v. elongatis; antheræ oblongæ, erectæ. *Ovarium* 2-loculare; stylus simplex, stigmate 2-cruri; ovula in loculis solitaria. *Bacca* 2-locularis, 2-sperma.—Arbores *et* frutices Americæ tropicæ, *glabri v. cinereo-pubescentes.* Folia *breviter v. longe petiolata.* Stipulæ *magnæ, liberæ v. connatæ, sæpe fimbriatæ v. setosæ.* Flores *in paniculas v. capitula terminales v. pseudo-terminales dispositi, albi.*

Rudgea *macrophylla;* frutex glaberrimus, ramulis robustis, foliis 1–2-pedalibus brevissime petiolatis elongato-obovato-oblongis v. lanceolatis subacutis inferne angustatis basi acutis obtusis v. cordato-2-lobis, floribus magnis in capitulum magnum densiflorum globosum crasse pedunculatum dispositis, stipulis in tubum connatis dorso infra margines setosis.

Rudgea macrophylla. *Benth. in Linn. v.* 23. *p.* 456. *Walp. Ann. v.* 2. *p.* 747.

A magnificent plant, and belonging to a genus which, though containing many species, had never previously, so far as I am aware, been introduced into European gardens. All of the species are South American, and the present, which flowered in Mr. Henderson's Nursery, of Pine-apple Place, in March of the present year, is a native of the neighbourhood of Rio de Janeiro, where it has been found by various collectors, and is described (by Gardner) as a shrub six feet high.

Descr. A glabrous, shining, deep-green *shrub*, about six feet high. *Branches* terete, very stout. *Leaves* very large, one to two feet and upwards long, very shortly petioled, narrow obovate-oblong or obovate-lanceolate, acuminate, spreading and recurved, narrowed to the base, which is acute obtuse or auriculate-two-lobed, very coriaceous, shining, with a stout broad midrib and numerous veins. *Stipules*

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connate into a cylindric short sheath, with two rows of thick, erect setiform processes on their sides. *Flowers* cream-white, collected into a globose dense head as large as a small fist. *Peduncle* very stout, cylindric; each flower one to one and a half inches long. *Ovary* globose, pubescent. *Calyx teeth* small, acute. *Corolla* thick in texture, funnel-shaped; lobes very thick, tips scarcely inflexed. *Filaments* long; *anthers* included. *Style* slender; *stigmas* linear.—*J.D.H.*

Fig. 1. Stipules, stem and base of leaf. 2. Flowers, *both of nat. size.* 3. Stamen. 4. Pistil and calyx. 5. Transverse section of ovary. 6. Ovule: *—all magnified.*

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Tab. 5654.

EPIDENDRUM Cooperianum.

Mr. Cooper's Epidendrum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5336.)

Epidendrum (§ Spathium) *Cooperianum;* caulibus rigidis erectis versus apicem foliosis, foliis distichis lanceolatis acutis pedunculo denso nutante multifloro e spathâ herbaceâ carinatâ subduplici orto vix æquantibus, bracteis minutis setaceis, floribus carnosis, sepalis ovali-lanceolatis acutis, petalis minoribus lineari-lanceolatis acutis, labello amplo basi bicalloso trilobo, laciniis lateralibus, maximis subrotundo-cuneatis, intermediâ transversâ reniformi alte emarginatâ, lineâ elevatâ per discum currente; clinandrio obtuse dentato.—*Bateman.*

Epidendrum Cooperianum. *Batem., mss.*

Cultivators scarcely need to be told that the vast genus Epidendrum is divided, as respects *habit*, into two grand divisions, *i.e.* the species that have and the species that have not pseudobulbs. They are also well aware that it is among the latter that the most describable kinds are generally to be found. There are, however, a few exceptions, amongst which must be numbered the plant now represented, which has a neat, compact, caulescent habit, and will well repay cultivation. It is named in compliment to Mr. Cooper, of Alpha House, Old Kent Road, a very zealous collector and successful grower of Orchids, who had the merit of exhibiting it for the first time at one of the Tuesday meetings of the Horticultural Society in the spring of last year. A month or two later, it was exhibited at another of these meetings by Mr. Dawson, of Meadow Bank, near Glasgow.

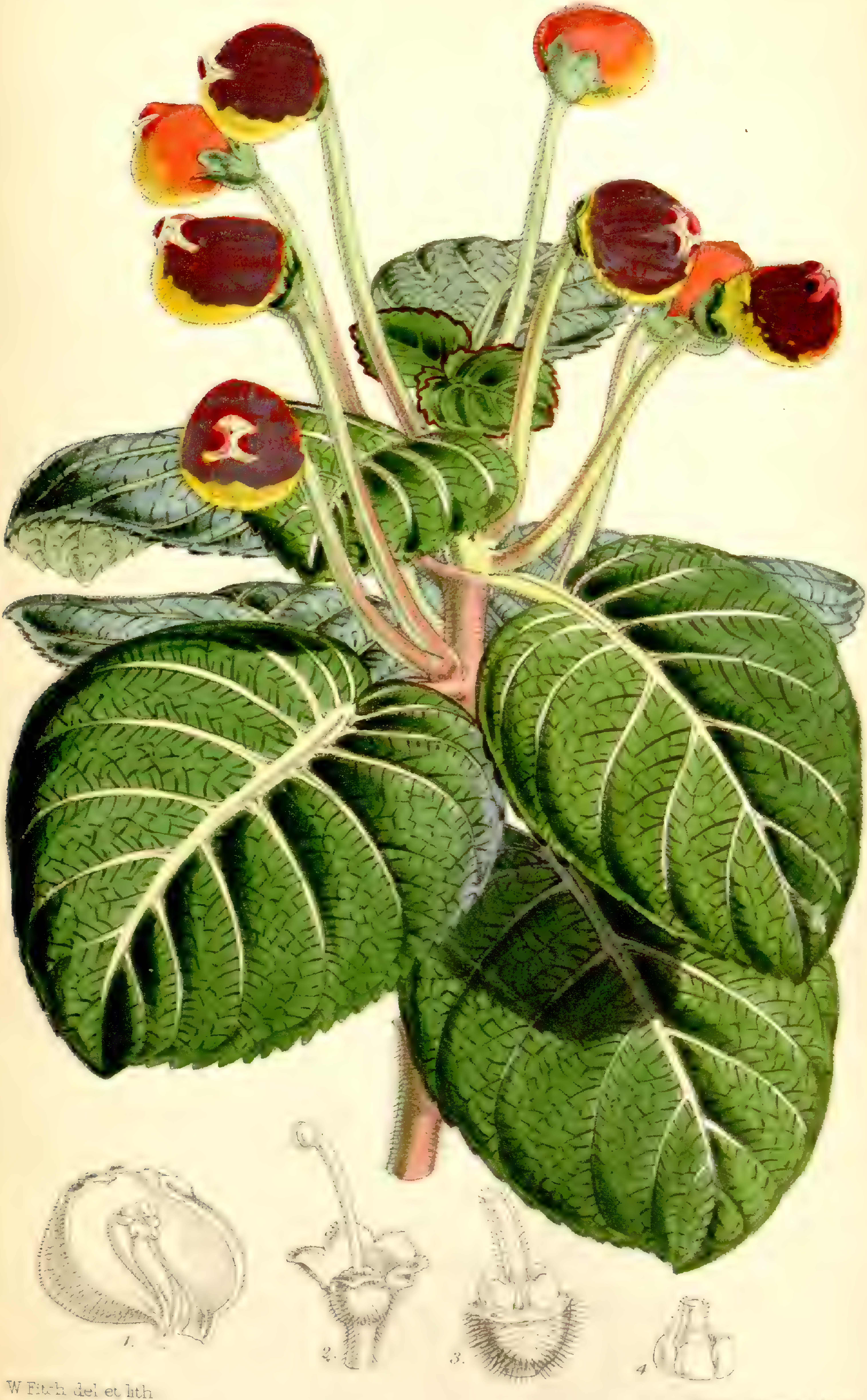
It is a Brazilian plant—probably from the neighbourhood of Rio—and grows readily in the Cattleya house, but it should also be tried in the Mexican house, in which very many Brazilian Orchids—especially divers *Oncidia*—would, I conceive, succeed perfectly. The Cattleya house itself

July 1st, 1867.

frequently proves too warm and too moist for many of the Orchids from the higher portions of the Organ Mountains, whence not a few of the most popular species have come to us.

DESCR. A caulescent plant with erect rigid *stems*, two feet or more high, thickly clothed in their upper portion with stiff distichous lanceolate sharp-pointed *leaves*, which are not quite so long as the dense nodding *peduncle*, which issues from what is usually a twofold keeled herbaceous *spathe*, the latter not quite so long as the leaves. *Raceme* many-flowered. *Flowers* coriaceous, of a dull yellowish-brown, with the exception of the lip, which is bright rose. *Sepals* oval-lanceolate, acute. *Petals* narrower than the sepals, linear-lanceolate, acute. *Lip* large, fully as broad as the column is long, divided into three unequal portions, of which those at the side are plane, subrotund, and rather wedge-shaped, while the central one is much smaller, kidney-shaped, and deeply emarginate; the disk of the lip is traversed by a raised line, and has at its base two oblong calli. *Column* somewhat bluntly toothed.—*J. B.*

Fig. 1. Column and lip, seen in front. 2. Pollen-masses:—*magnified.*



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TAB. 5655.

GLOXINIA HYPOCYRTIFLORA.

Hypocyrta-flowered Gloxinia.

Nat. Ord. GESNERIACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. Calycis tubus basi ovario connatus, 5-fidus v. 5-partitus. *Corolla* polymorpha, tubo cylindrico v. inflato, limbi lobis patentibus v. conniventibus. *Stamina* basi corollæ inserta, didynama. *Discus* e glandulis 5 liberis v. annulus crenatus. *Ovarium* basi v. altius calycis tubo adhærens. *Stylus* crassiusculus, stigmate 2-lobo. *Fructus* capsularis.—Herbæ *radicibus fibrosis, propagulis repentibus.* Flores *axillares.*

GLOXINIA *hypocyrtiflora;* herbacea, erecta, tota patentim subhirsuta, radice fibrosa, propagulis aucta, foliis oppositis breviter petiolatis ovato-rotundatis obtusis basi cordatis, sinu angusto, convexis obtuse serratis reticulatim venosis, areolis bullato-regulosis, costa nervisque pallidis, pedunculis axillaribus solitariis 2-nisve adscendentibus validis 1-floris, calycis parvi tubo ovario connato, limbo ultra ovarium producto subcampanulato breviter 5-fido, corolla ventricosa gibba fere globosa patentim hirsuta, lobis 5 parvis conniventibus faucem claudentibus, filamentis styloque villosis, antherarum loculis pubescentibus disci glandulis 5 erectis, ovarii apice libero.

The *Gesneriaceæ* are confessedly a very difficult tribe to classify, and the subject of the present Plate tends to increase the difficulty. In its habit, fibrous roots, and the presence of propagula (shoots bearing leafy buds), it is a *Gloxinia;* in the corolla, a *Hypocyrta;* in the glands, a *Gesnera;* whilst in the small calyx it differs from the ordinary forms of all these genera. Many botanists would no doubt found a new genus on it; but this I am unwilling to do for a member of an Order whose genera are already so badly defined. It must also be observed, that though it differs in the form of the corolla so much from any known *Gloxinia*, this organ presents extremely different forms in the various species both of that genus and of *Gesnera.*

Gloxinia hypocyrtiflora is a native of the forests of the Quitenian Andes, whence there are dried specimens (with propagula) in the Hookerian Herbarium, collected by Professor Jameson. For the specimen here figured I am indebted to Messrs. Veitch, who introduced it by means of their excellent collector, Mr. Pearce. It is a very beautiful plant, especially in the rich green of its velvety leaves traversed by pale veins.

Descr. A very hirsute and subglandular herb, a foot or so high. *Roots* fibrous. *Stem* erect, terete, soft. *Leaves* opposite, three to four inches long, on petioles half to three-quarters of an inch long, broadly ovate-cordate, with a very narrow sinus at the base, convex, obtuse, obtusely serrate, costa and nerves yellow, contrasting strongly with the dark emerald-green closely-reticulated surface of the leaf; the areolæ between the nerves present elevated conical papillæ. *Peduncles* one to two, in the axils of the leaves, ascending, and when numerous on the plant, forming a sort of corymb, stout, curved, three to four inches long. *Calyx* very short, broadly campanulate; limb produced beyond the ovary, shortly and obtusely five-lobed. *Corolla* two-thirds of an inch long, bright orange-red, nearly globose, but gibbous below, with five very obscure lobes which close over the mouth, bright orange-red, yellower on the gibbous portion. *Glands* epigynous, five, thick. *Stamens* four, filaments hirsute; *anthers* cohering, pubescent; fifth stamen rudimentary. *Ovary* sunk in the calyx tube, apex free, hairy. *Style* stout, pubescent. *Stigma* two-lobed.—*J. D. H.*

Fig. 1. Corolla laid open. 2. Calyx and ovary. 3. Glands, and base of calyx. 4. Glands removed:—*all magnified.*

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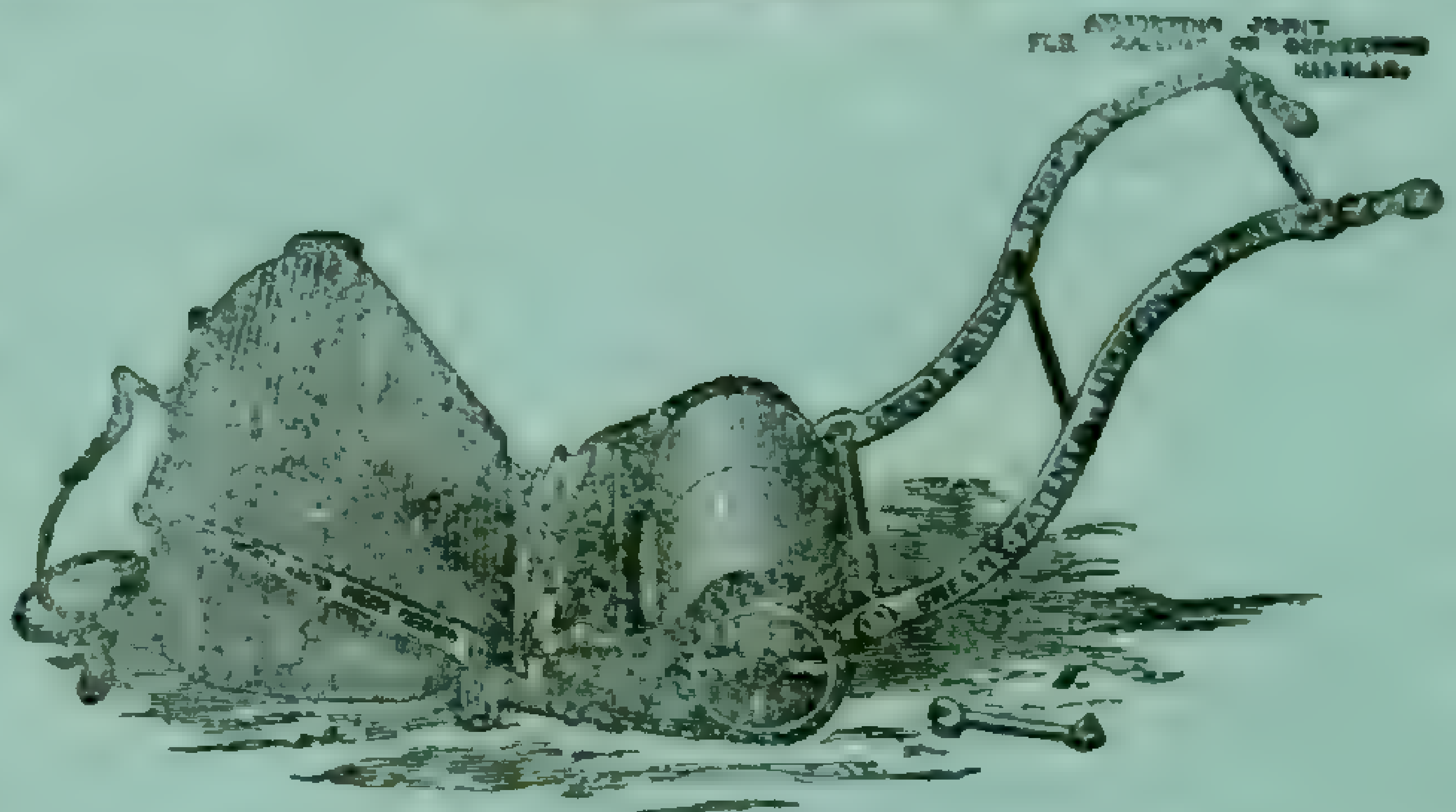

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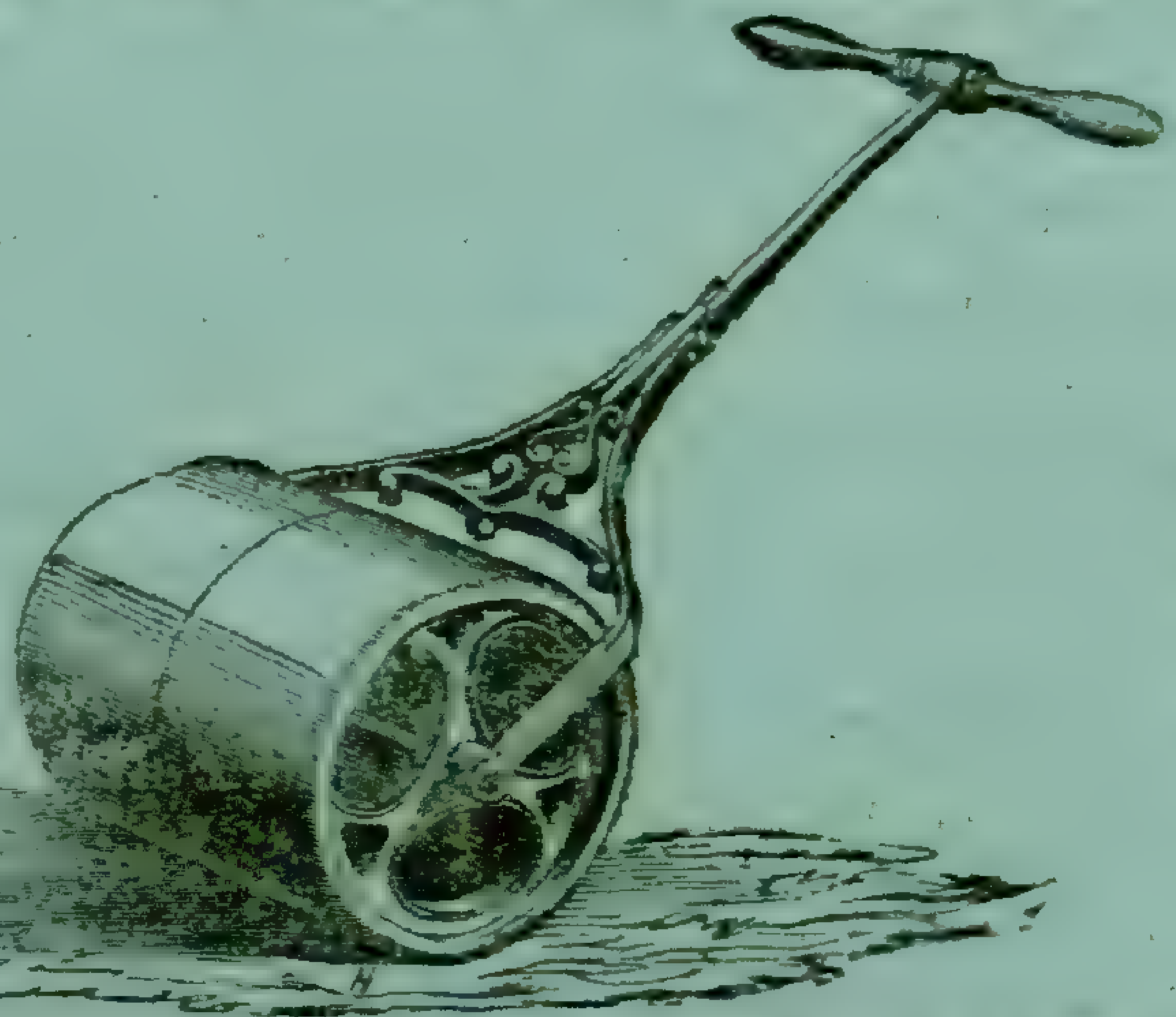

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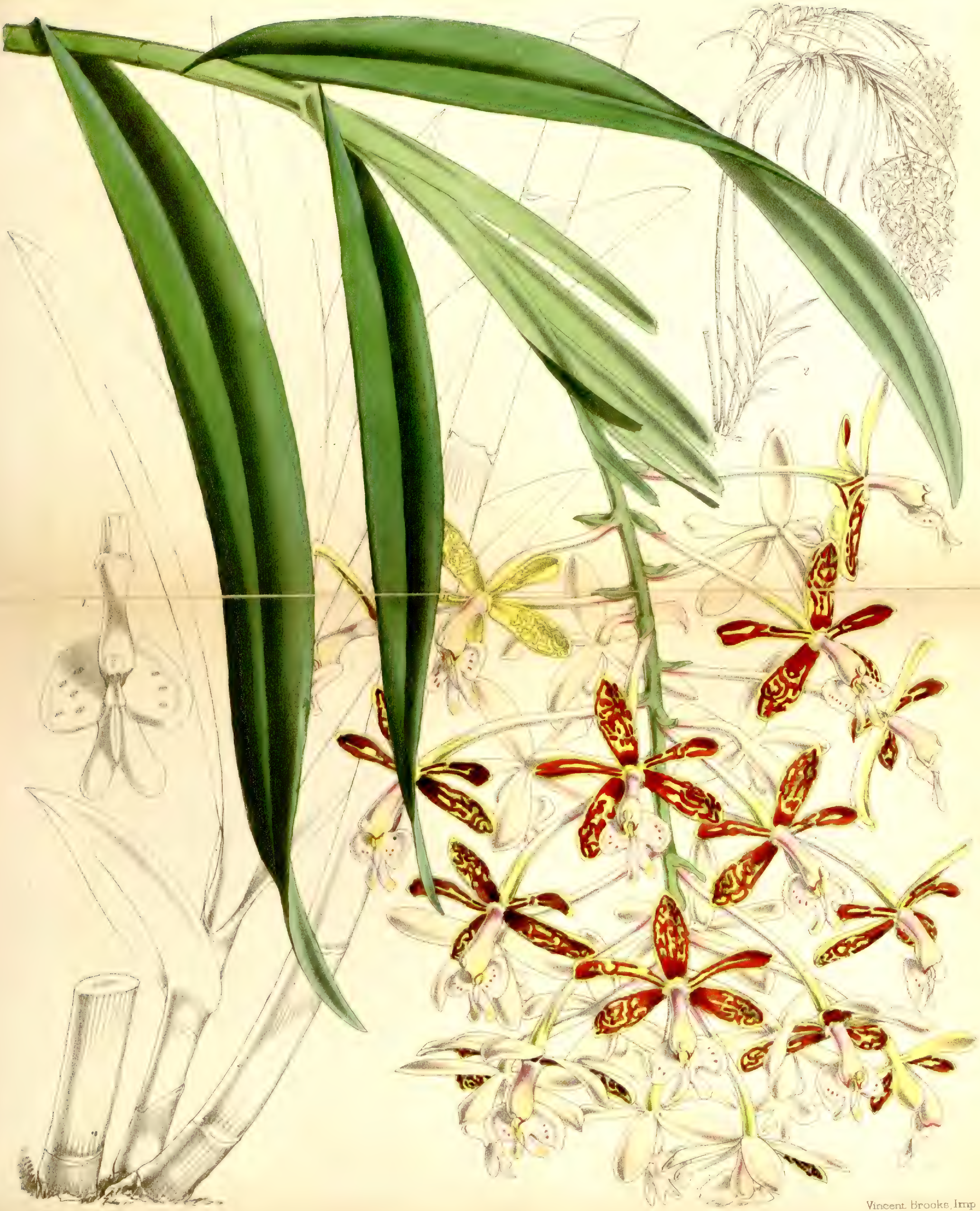
5656.



W. Fitch, del et lith.

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Tab. 5656.

EPIDENDRUM CNEMIDOPHORUM.

Sheathed Epidendrum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5336.)

Epidendrum (Spathium) *cnemidophorum;* spathis plurimis foliaceis equitantibus obtusis, racemo multifloro sessili cernuo simplici vel (rarius) paniculato, bracteis linearibus, sepalis oblongis obtusis, petalis linearibus, columnâ sigmoideâ, labelli lobis carnosis integerrimis lobis lateralibus rotundatis, intermedio cuneato bilobo rotundato, callis 2 maximis lineisque tribus elevatis quarum intermedia major. *Lindl. Fol. Orch.*

Epidendrum cnemidophorum. *Lind. Fol. Orch.*

This most remarkable plant was long since discovered by the late Mr. Skinner, who laboured ineffectually for many years to introduce it alive into our gardens. At length however his perseverance was rewarded, and he had the satisfaction of receiving, early in 1864, a cargo of some twenty or thirty specimens, all in the most perfect condition, and of which some were sold at Stevens's Rooms, while others, with his wonted generosity, were distributed amongst his friends. Among the latter Sir Philip Egerton was not forgotten, and from a particularly fine specimen that flowered at Oulton, and which was exhibited at South Kensington in April last, Mr. Fitch's very characteristic representation was obtained. Even this however by no means conveys an adequate idea of the stately appearance presented by the plant, the stems of which were when exhibited already some five feet high, while a dozen still more vigorous growths were preparing to follow.

In its native country (Guatemala) it is found at an elevation of at least 7000 feet, and it must consequently be kept cool, if we would expect it to thrive in our collections. At Oulton it receives little more than ordinary greenhouse treatment, and with me it succeeds perfectly in the Mexican house. Patience however will have to be exercised, for—even in Guatemala—it takes nearly seven years to grow a really fine plant; but this when once obtained will remain a sort of heirloom for generations. The roots being very large and fleshy, it requires abundant pot-room, the pots being filled with a mixture of broken potsherds, sphagnum, and fibrous peat.

Mr. Skinner once showed me a clever model of this plant executed in coloured paper, and which he obtained from the nuns of some Guatemala convent, in whose garden it was cultivated for the sake of its flowers. The white background of these, contrasted with the rich spotting on the inner side, does, indeed, produce a very striking effect, and no doubt attracted the attention of the sisterhood. This model showed a compound raceme a foot or more long, which I expect will be at least equalled by those of the plant at Oulton when it flowers again.

DESCR. A robust terrestrial plant, throwing out numerous fleshy *roots*, and forming tufts of stout leafy *stems*, which are from half an inch to an inch thick, and from four to six feet high. *Leaves* from six to ten inches long, glossy, dark green and sharp-pointed. From the extremity of the stem there issues forth a nodding, many-flowered (sometimes, though rarely, compound) *raceme*, protected by numerous blunt, sheathing, equitant, pale green *spathes*. *Flowers* fleshy, on white *pedicels* three times as long as themselves. *Sepals* oblong, obtuse, broader than the linear *petals*, both being white at the back, and of a pale yellow, mottled with rich reddish brown inside. *Lip* divided into three fleshy lobes, of which those at the sides are rounded and entire, while that in the centre is wedge-shaped and deeply cleft into two portions, which are divergent and rounded; its colour is a creamy white, with rosy tints. *Column* somewhat curved and club-shaped, about the same length as the lip.—*J. B.*

Fig. 1. Front view of lip and column, *slightly magnified*. 2. Diminished outline of the plant.

5657.

W Fitch del et lith

Vincent Brooks I

TAB. 5657.

BEGONIA BOLIVIENSIS.

Bolivian Begonia.

Nat. Ord. BEGONIACEÆ.—MONŒCIA POLYANDRIA.

Gen. Char. (*Vide supra,* TAB. 4131.)

BEGONIA (§ Barya) *Boliviensis;* herbacea, glabra, ramosa, foliis breviter petiolatis oblongo-lanceolatis acuminatis valde inæquilateralibus basi obliquis subcordatis penninerviis irregulariter inciso-serratis, dentibus setaceis, stipulis oblongo-lanceolatis serratis, pedunculis axillaribus pollicaribus 2-floris fl. ♂ et ♀, bracteis amplis cucullatis serratis, floribus magnis coccineo-cinnabarinis, perianthii foliolis lanceolatis ♂ 4, ♀ 5, filamentis in conum elongatum alte connatis, antheris obtusis, stigmatibus 3 ramis fascia papillosa basi continua cinctis, ovario 3-ptero, placentis alte 2-fidis, segmentis utrinque ovuliferis.

BEGONIA Boliviensis. *DC. Prodr. v.* 15. *pars* 1. *p.* 287.

The very beautiful plant here figured was procured by Messrs. Veitch from Bolivia, through their collector, Mr. Pearce, and was exhibited for the first time at the International Horticultural Show in Paris in May last, when it attracted more of the attention both of botanists and horticulturists than any other plant then brought to that magnificent floral exhibition.

Begonia Boliviensis was discovered by Weddell in the Cordillera of Bolivia, and belongs to a very small section of the genus, to which the (generic) name of *Barya* was given by Klotzsch; the only other species being the *B. monadelpha*, Ruiz and Pav., a native of Peru. In habit the Baryas singularly resemble the species belonging to the subgenus *Casparya*, Kl., but differ wholly in the structure of their stigmas.

DESCR. Glabrous. *Root* a small tube. *Stem* herbaceous, two to three feet high, sparingly branched. *Branches* cylindrical, green, translucent. *Leaves* on very short petioles, four to five inches long by one to one and a half inches broad, lanceolate or ovate-lanceolate, acuminate, very unequal at the base, the larger lobe rounded, acutely doubly serrate and obscurely lobulate, feather-veined, bright-green above, with red margins, pale below. *Stipules* oblong-lanceolate, toothed, recurved, green. *Peduncles* axillary, one inch long, two-flowered, male and female. *Bracts* green, broadly ovate, cucullate, toothed. *Pedicels* one inch long, red. *Flowers* drooping, bright cinnabar-scarlet; ♂ two inches long, with four lanceolate perianth-leaflets two inches long, ♀ with five half as long. *Stamens* united into a long conical column; *anthers* small, oblong, yellow. *Ovary* three-winged; *styles* three; *stigmas* two-lobed, lobes with a spiral band that is continuous at their bases. *Placentas* bifid, with ovules on both surfaces of the segments.—*J. D. H.*

Fig. 1. Staminal column. 2 and 3. Stamen. 4. Pistil. 5. Transverse section of ovary:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5658.

PROSTANTHERA NIVEA.

Snow-white Prostanthera.

Nat. Ord. LABIATÆ.—DIDYNAMIA GYMNOSPERMIA.

Gen. Char. Calyx campanulatus; tubus brevis, 13-striatus; labia indivisa fructus clausa. *Corolla* tubo brevi amplo, fauce campanulata, labio superiore erecto subplano, inferiore patente. *Stamina* 4; antheræ 2-loculares, loculis parallelis, connectivo subtus calcarato. *Stylus* apice 2-fidus, lobis subæqualibus.—Frutices *glandulosi.* Flores *axillares v. racemosi sub calyce bracteis parvis instructi.*

PROSTANTHERA *nivea;* glaberrima, foliis linearibus v. lineari-lanceolatis margine (sicco) revolutis, racemis laxis, calycibus glabris, labio superiore maximo, inferiore dimidio breviore ciliato, connectivi calcare altero brevi, altero elongato loculum bis superante.

PROSTANTHERA nivea. *Cunn. in Benth. Lab. p.* 452. *Benth. in DC. Prodr. v.* 12. *p.* 561.

The *Prostantheras* belong to a class of hard-wooded plants, the cultivation of which has of late years given place to that of innumerable varieties of Fuchsias and other more gaudy but in many respects less interesting things, that now form the staple of our greenhouse furniture. There are some twenty-six species described by Bentham, all Australian. Many of them are pretty and graceful, and they further flower at a season when little else that is not forced for the purpose is to be had in the conservatory. *P. nivea* is a native of rocky hills in New South Wales and Victoria, where it was discovered by the late Allan Cunningham (formerly of Kew). The specimen here figured was raised from seeds sent to Kew by Dr. Mueller, and flowered in May of the present year.

DESCR. A glabrous bush, three to four feet high. *Stems* and *branches* slender, twiggy, upper four-angled; branchlets erecto-patent. *Leaves* one to one and a half inches long, spreading, linear or linear-lanceolate, acute, quite entire, pale-green, nearly flat, margins revolute when dry. *Flowers*

AUGUST 1ST, 1867.

forming loose racemes, being solitary in the axils of the uppermost leaves, shortly pedicelled, bracteoles linear. *Calyx* green; tube hemispherical, grooved; *lobes* ciliolate, upper obscurely three-lobed, lower much smaller, obtuse. *Corolla* two-thirds of an inch in diameter, white with pale lilac lobes, and a few yellow-brown spots on the throat at the base of the lower lip; upper lip short, two-lobed. *Leaves* spreading, deeply three-lobed, lateral obtuse, middle truncate and emarginate, all pilose and crisped at the margin. *Anther* with one flat spur that is erose at the tip, and as long as the cell, the other adnate with the connective, and much smaller. *Ovary* subglandular; *stigma* 2-fid.—*J. D. H.*

Fig. 1. Flower. 2 and 3. Stamens. 4. Calyx. 5. Pistil:—*all magnified.*

5659

W. Fitch del. et lith.

Vincent Brooks, Imp.

TAB. 5659.

CESTRUM ELEGANS.

Purple Habrothamnus.

Nat. Ord. SOLANACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx 5-fidus 5-dentatus v. 5-partitus. *Corolla* infundibuliformi-tubulosa, tubo ventricoso, fauce constricta, limbo parvo 5-lobo. *Stamina* 5, tubo adnata, rarius libera; antheræ 2-lobæ, longitudinaliter dehiscentes. *Ovarium* breviter stipitatum, stipite disco circumdato, 2-loculare, septo medio placentifero; stylus simplex, stigmate vario; ovula pauca. *Bacca* ovoidea v. globosa, 1–2-locularis, oligosperma. *Semina* compressa, albuminosa; cotyledones parvæ, foliaceæ.—Frutices *v.* arbusculæ. Folia *solitaria v. gemina, petiolata, penninervia.* Flores *racemosi.*

CESTRUM (Habrothamnus) *elegans;* fruticosa, ramis herbaceis teretibus pubescenti-tomentosis, foliis petiolatis ovato-lanceolatis acuminatis basi rotundatis, cymis terminalibus, calyce obconico glabro, corollæ laciniis acutis.

CESTRUM elegans. *Schlecht. in Linn. v.* 19. *p.* 261. *Dunal in DC. Prodr. v.* 13. *pars* 1. *p.* 600.

HABROTHAMNUS elegans. *A. Brong. Herb. Gen. de l'Amat. ser.* 2. *v.* 4. *et Hort. Univ. v.* 5. *p.* 293.

HABROTHAMNUS purpureus. *Lindl. Bot. Reg.* 1844, *t.* 43, *et Misc. p.* 12.

The figures hitherto published by Van Houtte and Lindley give no idea of the size and beauty of the flower of this fine plant, and these are succeeded by magnificent grape-like clusters of deep purple globular berries one-third of an inch in diameter.

The *Habrothamnus* section of *Cestrum* are all natives of Mexico. Several species are described, evidently very closely, if not too closely related. The present grows at elevations of 3–4000 feet, and succeeds well in a temperate house. The plant fruited was sent by Mr. Henderson, of Wellington Nursery.

The genus *Habrothamnus* of Endlicher, established as a section by Schlechtendal, has been reduced again to *Cestrum* by Dunal in the 'Prodromus' of A. De Candolle, in conformity with which work we have described the above species.

AUGUST 1ST, 1867.

Descr. A large bush or small tree, with graceful pendulous leafy branches; branchlets cylindrical, pubescent. *Leaves* alternate, shortly petioled, lanceolate or oblong-lanceolate, quite entire, acuminate, three to four inches long, pubescent, pilose on the nerves beneath, deep-green, membranous, rounded acute or obscurely cordate at the base. *Flower* in dense pendulous, thyrsoid, compound racemes, one inch long, purplish-red, shortly petioled. *Calyx* short, tube turbinate, green; *lobes* broadly triangular-ovate, acuminate, erect. *Corolla* tubular, gradually inflated, then contracted below the mouth, glabrous; limb short, with five spreading triangular acute lobes; mouth and inner surface glabrous. *Stamens* inserted two-thirds of the way down the tube; filaments filiform; *anthers* included, small, yellow. *Ovary* globose; *style* slender; *stigma* capitate, truncate, included. *Berry* globose, half to three-quarters of an inch in diameter, fleshy, deep red-purple, two-celled, many-seeded.—*J. D. H.*

Fig. 1. Flower. 2. Vertical section of corolla. 3. Pistil. 4. Transverse section of fruit:—*all but Fig. 4, magnified.*

5660.

W. Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5660.

AGAVE XYLONACANTHA.

Woody-thorned Agave.

Nat. Ord. AMARYLLIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 5333.)

AGAVE *xylonacantha;* acaulis, foliis subsquarroso-patentibus ensiformibus acuminatis apice subtrigono pungente glaucis granulatis supra planiusculis subtus convexis ecarinatis estriatis, margine cartilagineo albo aculeis dilatatis simplicibus v. furcatis instructo, scapo elato bracteis longe setaceis numerosis instructo, racemo densifloro, pedunculis pedicellisque brevibus, bracteolis subulatis, perianthii tubo brevissimo lobis oblongis obtusis erectis viridibus ovario cylindrico æquilongis. *C. Koch, Wochenschr.* 1861, *p.* 39.

AGAVE xylonacantha. *Salm-Dyck, in Bonplandia, v.* 7. *p.* 92. *Jacobi in Otto, Hamburg. Garten- und Blumen-Zeitung, v.* 20. *p.* 547.

The 'Botanical Magazine' seems especially adapted for the publication of that noble class of plants that few can afford to cultivate, and which seldom flower in cultivation, but which are of equal interest to the scientific botanist and to the horticulturist. Amongst these the Aloes and Agaves hold, after the Palms, the place of honour, and their value for decorative purposes is becoming yearly more apparent.

The subject of the present Plate is a native of Real del Monte, Mexico, whence it was sent to the Royal Gardens in 1846, by Mr. Repper, to whom the Gardens are indebted for many fine plants.

DESCR. Stemless. *Leaves* spreading all round, two to three feet long, three to five inches broad, thick, rigid, and succulent, rough with minute granulations, but neither keeled, striated, nor ribbed, plane above, convex beneath, glaucous-green, ensiform-lanceolate, gradually acuminate to the pungent trigonous apex; margin broad white, cartilaginous, beset with flat-lobed, white, vertically compressed, simple or lobed spinous processes, the lobes irregular, often uncinate. *Scape* nine to ten feet high, strict, rather stout, green, beset with long, strict, subulate bracts, two to eight inches long. *Flowers* in a very dense, elongate, strict, erect raceme, three to four feet long, clustered in twos and threes on short, stout peduncles, that are subtended by a reflexed subulate bract one and a half to two inches long; each flower, with the stamens, three inches long; pedicels very short; bracteoles minute, subulate. *Ovary* cylindric, one inch long, glabrous, green. *Perianth* tube very short; lobes linear-oblong, obtuse, erect, about as long as the ovary, green. *Stamens* as long as the ovary and perianth, erect. *Filaments* yellow with a red tinge, strict. *Anthers* yellow, linear, two-thirds of an inch long. *Style* slender, shorter than the stamens; *stigma* small, capitate.—*J. D. H.*

Fig. 1. Reduced figure of the whole plant. 2 and 3. Portions of the leaf. 4. Ditto of the raceme:—*both of nat. size.*

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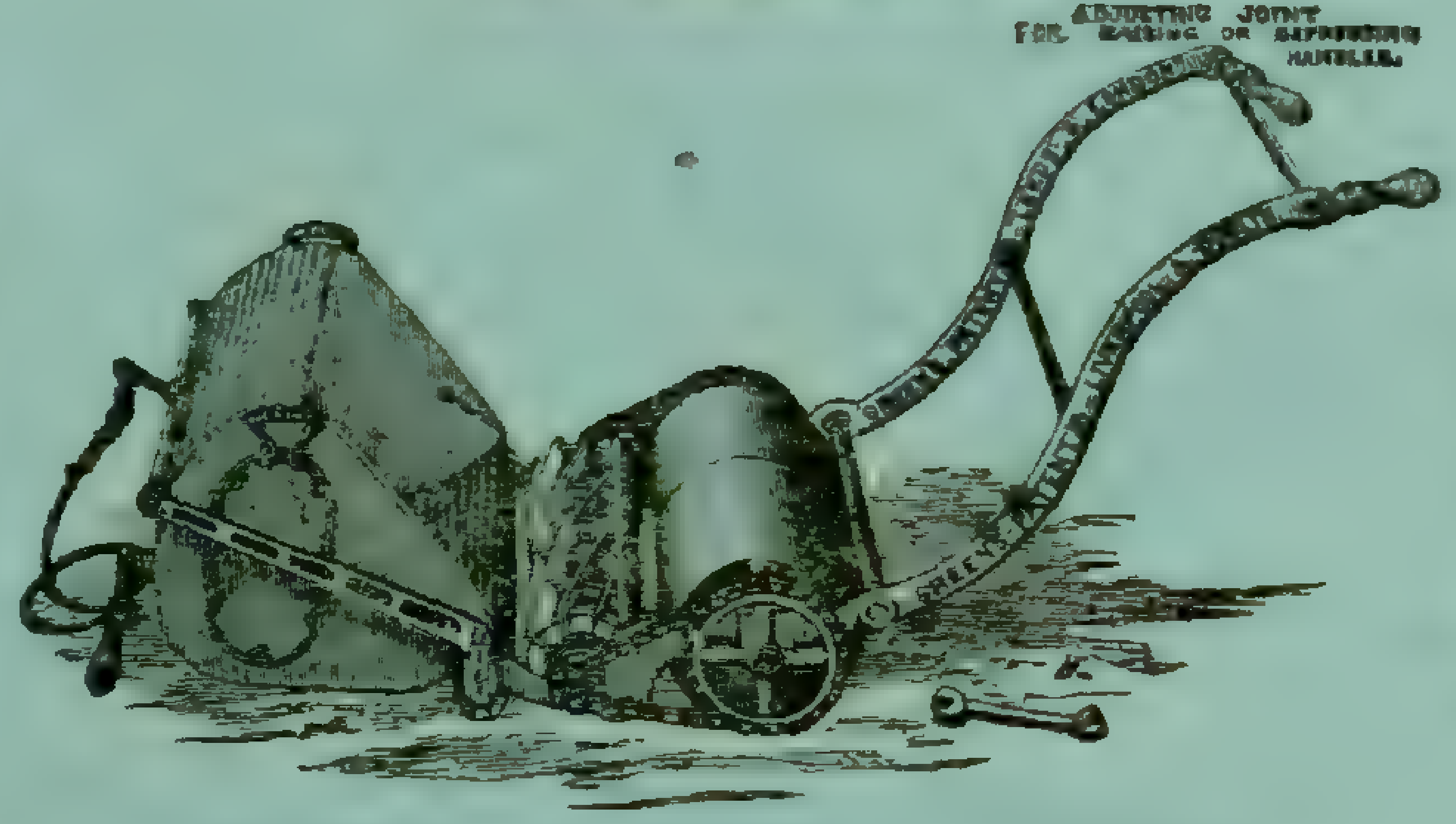
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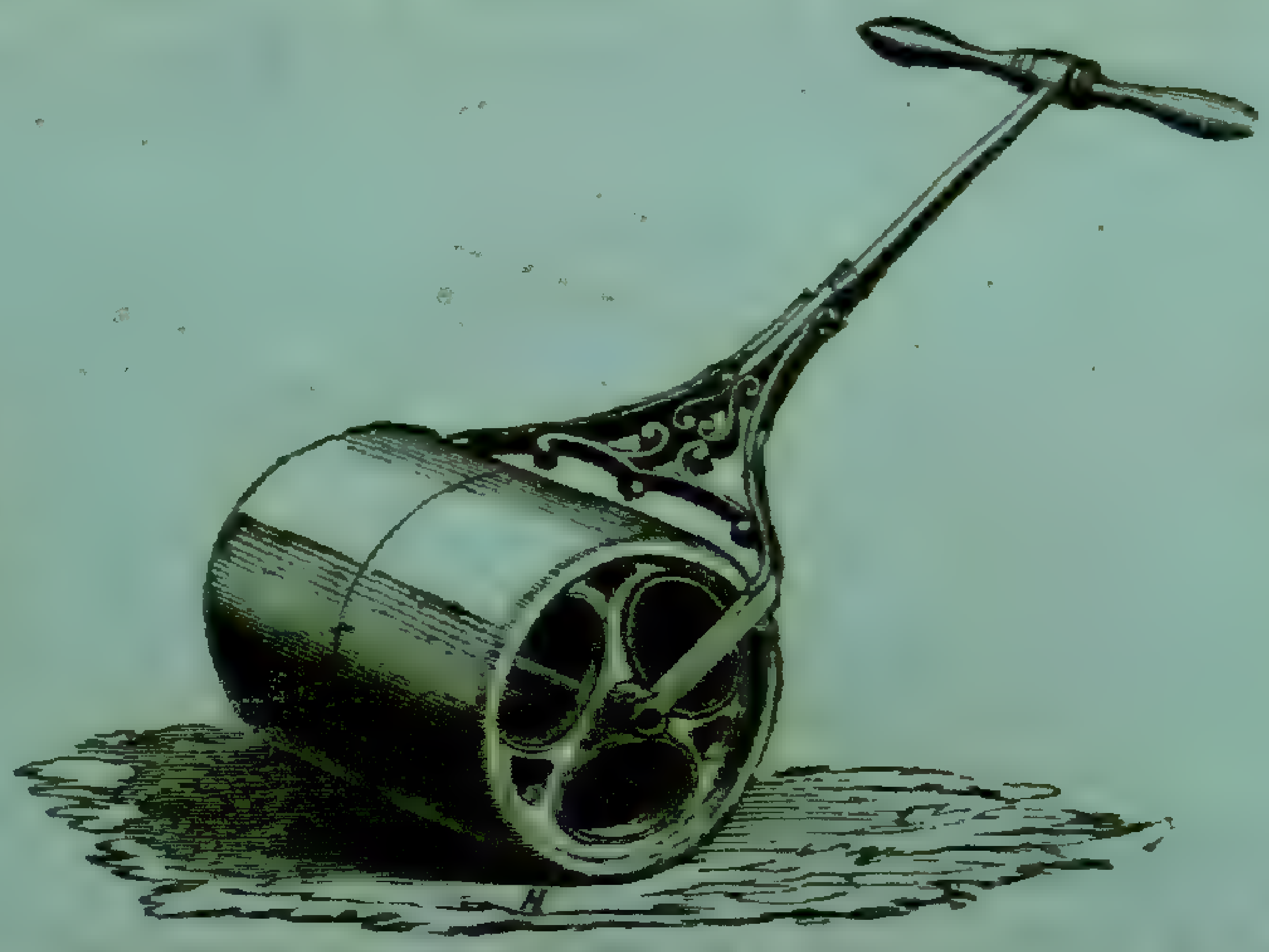

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TAB. 5661.

COLAX JUGOSUS.

Furrowed-lipped Colax.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. *Perianthium* vix ringens, in mentum breve productum, subglobosum. *Sepala* et *petala* subæqualia, oblonga. *Labellum* unguiculatum, immobile, inappendiculatum, ungue brevi sublineari in laminam dilatatam 3-lobam dilatato. *Columna* semiteres, subelongata. *Anthera* carnosa, subimmersa. *Pollinia* 4, obovoidea, caudiculæ membranaceæ elongatæ angustatæ adnata; glandula obscura. *Rostellum* 5-lobum.—Herbæ *pseudobulbosæ*, Brasilienses. Folia *terminalia et radicalia, plicata.* Pedunculi *radicales, erecti, 1–3-flori, vaginati.* Flores *majusculi.*

COLAX *jugosus;* pedunculo 2–3-floro, sepalis ovato-rotundatis albis, petalis late obovatis albis fasciis purpureis creberrime notatis, labelli villosi jugosi purpureo-fasciati lobis lateralibus parvis, intermedio semiorbiculari, columna villosa.

COLAX jugosus. *Lindl. in Bot. Reg.* 1843; *Misc. p.* 51. *Reichenb. fil. Xen. Orch. p.* 107. *t.* 41.

MAXILLARIA jugosa. *Lindl. Bot. Reg.* 1840; *Misc. p.* 51.

The genus *Colax* was established by Lindley upon certain *Maxillariæ* with less ringent flowers than the majority of the species of that genus and a peculiar caudicle, though how far such differences will hold good as generic cannot be determined, until a revision of this great and most important Order shall settle the value of the characters now so arbitrarily used for the limitation of its genera. *Colax* is, however, upheld by Reichenbach, whose authority on Orchideæ is unquestionably the highest, and who gives a very fair figure of this species in the valuable work referred to.

Colax jugosus is a native of Brazil, and, according to Lindley, was introduced by Messrs. Loddiges. The specimen here figured flowered in Mr. Rucker's magnificent collection at Wandsworth in May of the present year. I have followed Reichenbach in referring it to Lindley's *C. jugosus*, from whose description in the 'Botanical Register' it differs in

SEPTEMBER 1ST, 1867.

the petals being banded with dark purple, not speckled with crimson.

Descr. *Pseudobulbs* elongate-ovoid, compressed, smooth and even, two to three inches long. *Leaves* from the apex and base of the pseudobulbs, lanceolate, acuminate, six to nine inches long, an inch and a half to two inches broad. *Scape* radical, clothed with imbricating, rather turgid, acute sheaths, an inch to an inch and a half long, two- to three-flowered. *Flowers* subglobose, when fully expanded two inches in diameter. *Sepals* broadly oblong, almost rounded, obtuse, pale cream-colour. *Petals* obovate-oblong, shortly unguiculate, obtuse, white, thickly studded with short, transverse, black-purple bands. *Lip* smaller than the petals, shortly unguiculate, velvety and covered with fleshy ridges, three-lobed; lateral lobes small, banded longitudinally with dark purple spots; middle lobe semicircular, streaked and splashed with dark purple. *Column* villous in front.—*J. D. H.*

Fig. 1. Lip. 2. Column. 3. Pollinia and caudicle:—*all magnified.*

5662.

W Fitch del et lith.

Vincent Brooks Imp

TAB. 5662.

DRACÆNA SURCULOSA; var. *maculata.*

Long-shooting Dracæna; spotted-leaved var.

Nat. Ord. ASPARAGINEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 5248.)

DRACÆNA *surculosa;* fruticosa, surculos strictos erectos squamosos e radice emittens, caulibus gracilibus dichotome ramosis paucifoliatis squamosis, cicatricibus squamarum delapsarum annulatis, foliis breviter petiolatis oblongo-lanceolatis acuminatis striato-nervosis, nervis omnibus parallelis, squamis lanceolato-subulatis membranaceis erectis, pedunculo terminali gracili erecto, bracteis minutis, floribus in corymbum laxum globosum dispositis gracile pedicellatis, pedicello basin versus articulato, perianthii tubo gracili lobis linearibus reflexis æquilongo, filamentis filiformibus.

DRACÆNA surculosa. *Lindl. in Bot. Reg. t.* 1169.

Var. *maculata;* foliis fulvo-maculatis.

This is another of the spotted-leaved *Dracænas* that inhabit, and indeed are almost peculiar to the shores of western tropical Africa, and, with the *D. phrynoides* (Tab. nostr. 5352) and *D. bicolor* (Tab. 5248), dried specimens were sent home by Mr. Gustav Mann, whilst collector for Kew on that dangerous but prolific coast.

D. surculosa was discovered by the late George Don, when collector for the Horticultural Society of London in 1821, at Sierra Leone, and from the plants he sent to England the figure published in the 'Botanical Register' was made; these however wanted the yellow spots so conspicuous in var. *maculata*, and the pedicels of its flowers are rather shorter; in other respects the plants are identical. It is very near the *D. elliptica*, var. *maculata* (Tab. nostr. 4787), but has very different flowers and inflorescence.

D. surculosa, var. *maculata*, was collected by G. Mann in 1863 on the banks of the Old Calabar River, but the speci-

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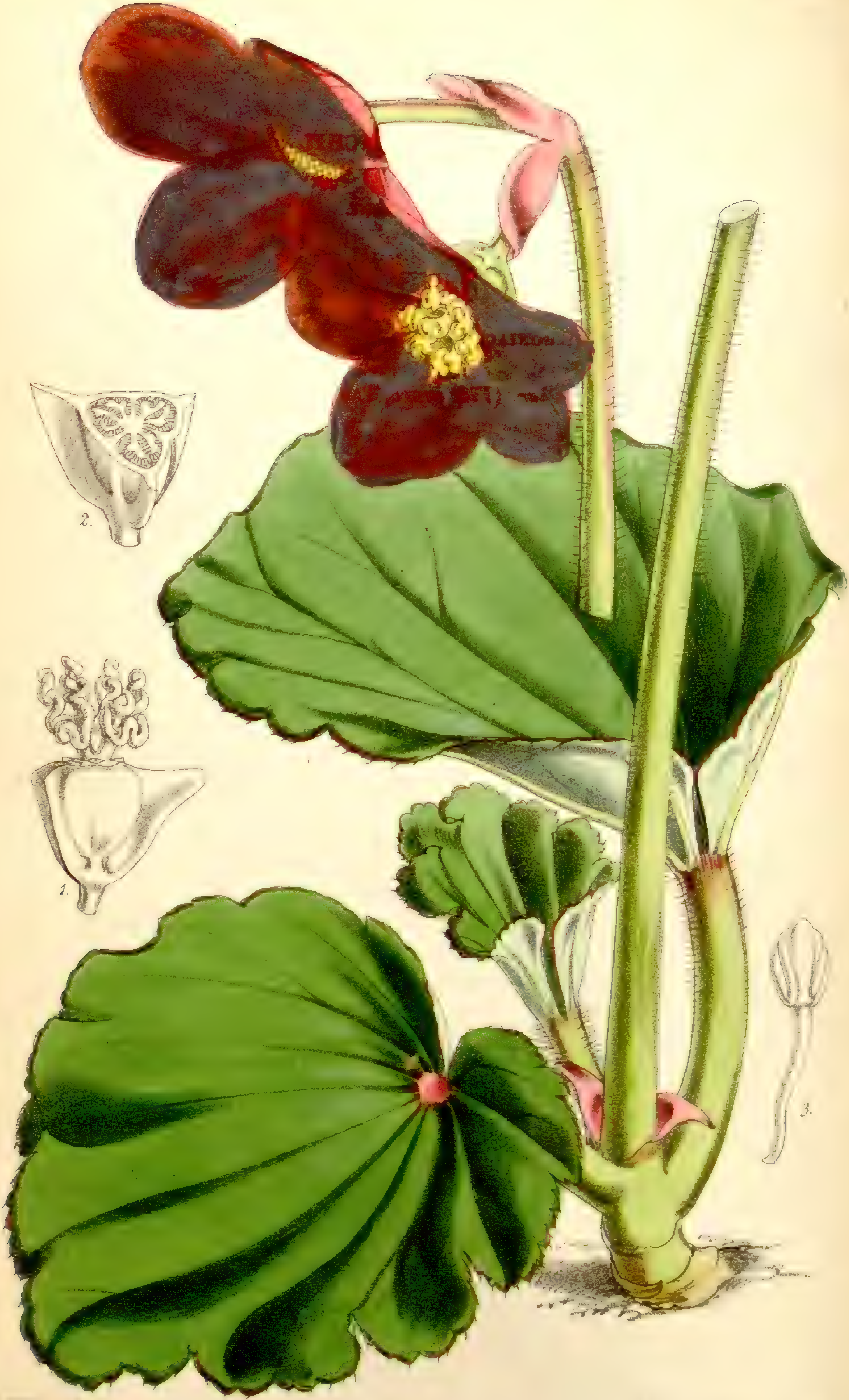
mens here figured were communicated by Mr. Clarke, of the Glasgow Botanic Garden, to whom the Royal Gardens are indebted for a fine living plant.

DESCR. A *shrub*, six to eight feet high, sparingly dichotomously branched, throwing up copious, stout, erect, rod-like, scaly surculi from the root. *Stems* and *branches* very slender, annulate where the scales have fallen away, terete, with deciduous subulate membranous scales here and there on the shoots and at the base of the peduncle. *Leaves* in scattered, subopposite pairs, and whorled in threes, spreading, flat, four to six inches long, one and a half to two inches broad, shortly petioled, oblong-lanceolate, acuminate, finely striated with parallel nerves, rather membranous in texture. *Peduncle* terminal, strict, erect or inclined, three to five inches long, slender, with scattered sheathing scales, bearing at the top a globose, lax corymb of greenish-white flowers. *Peduncles* one inch long, very slender, with subulate bracts at the insertion, jointed near the base. *Ovary* oblong. *Perianth*-tube above the ovary nearly half an inch long, slender; lobes linear, reflexed, obtuse, about as long as the tube, pale-yellowish. *Filament* slender, filiform, as long as the perianth lobes; *anthers* oblong, yellow. *Ovary* bluntly trigonous; *style* very slender; stigma capitate, three-lobed. *Berry* as large as a pea, one-seeded. *Seed* subglobose.—*J. D. H.*

Fig. 1. Flower. 2. Upper part of stamen. 3. Pistil. 4. Transverse section of ovary. 5. Fruit:—*all but Fig. 5 magnified.*

5663.



W. Fitch del. et lith

Vincent Brooks Imp.

TAB. 5663.

BEGONIA VEITCHII.

Veitch's Begonia.

Nat. Ord. BEGONIACEÆ.—MONŒCIA POLYANDRIA.

Gen. Char. (*Vide supra,* TAB. 4131.)

BEGONIA (§ Huszia) *Veitchii;* acaulis, laxe pilosa, foliis crasse petiolatis oblique ovato- v. rotundato-cordatis lobulatis et crenulatis, nervis flabellatis subtus prominulis, scapo robusto 2-floro (fl. ♂ et ♀), bracteis 2 oblongis obtusis roseis, floribus amplis miniato-cinnabarinis, perianthii foliolis obovato-rotundatis in ♂ 4, in ♀ 5, filamentis liberis, antheris obtusis, ovario 3-loculari, placentis 2-fidis, lobis lobulatis undique ovuliferis, stylis 3–2-furcatis, cruribus fascia papillosa torta cinctis.

BEGONIA Veitchii. *Hook. f. in Gard. Chron.* 1867, *p.* 734, *cum ic. xylog.*

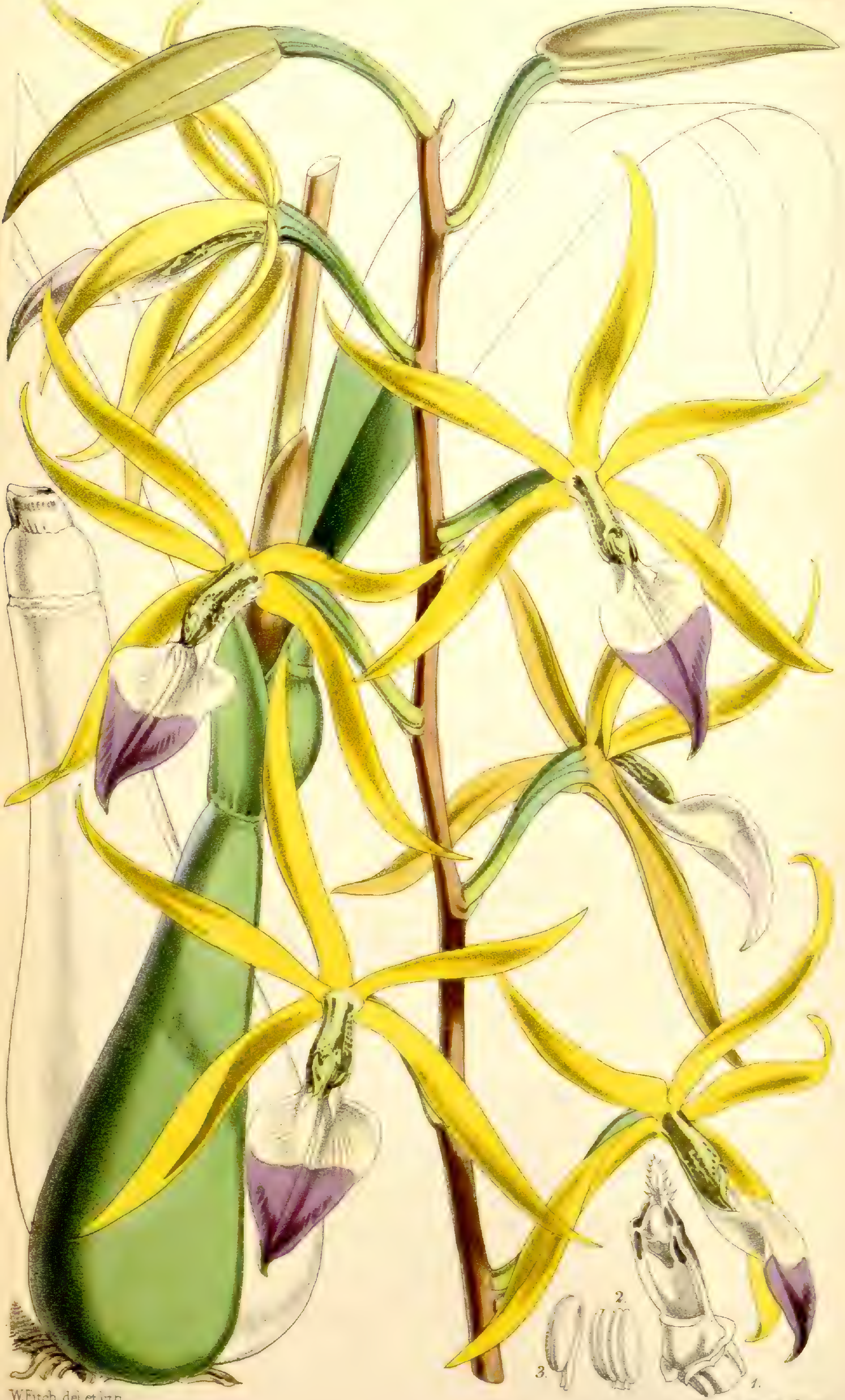
Of all the species of *Begonia* known, this is, I think, the finest. With the habit of *Saxifraga ciliata*, immense flowers of a vivid vermilion-cinnabar red, that no colourist can reproduce, it adds the novel feature of being hardy, in certain parts of England at any rate, if not in all. It was discovered by Messrs. Veitch's collector, Mr. Pearce, near Cuzco, in Peru, at an elevation of 12,000–12,500 feet, and the plants grown in Mr. Veitch's establishments have already given proof sufficient of their hardihood, by withstanding a temperature of 25° Fahr. with absolute impunity. Unwilling as I am to pronounce on the probable or possible adaptation of exotic plants to an English climate, I cannot but believe that in the south-western counties and in the south of Ireland, the *Begonia Veitchii* will certainly prove one of the most ornamental of border plants.

A very nearly allied species to this exists in the Hookerian Herbarium, collected by Mandon in the Andes of Bolivia, near Sorata, altitude 9,000–10,000 feet; it is, however, more caulescent, and has a glabrous scape, with larger stipules and bracts. I have mentioned this as the same species as *Veitchii*, in the 'Gardeners' Chronicle,' but from live specimens since received from Major Trevor Clarke, I believe it to be distinct, having a caulescent habit, many-flowered scapes, and less brilliantly coloured flowers. It will shortly be figured in this work as *B. Clarkii.*

Descr. *Root* tuberous. *Stem* almost none. *Leaves* nearly radical, on short, stout, pilose petioles, orbicular- or broadly ovate-cordate, concave, obscurely lobed and crenate, four to six inches in diameter, thick in texture; nerves radiating from the centre, very prominent below; upper surface dark-green, under very pale; margins red and ciliate. *Stipules* membranous, triangular, ovate, red. *Scape* erect, stout, terete, eight to ten inches high, pilose, two-flowered, male and female. *Bracts* concave, membranous, oblong, obtuse, ciliate, rose-red. *Peduncles* about one inch long. *Flowers* one and three-quarters to two and a half inches in diameter, bright cinnabar-red; *male* flower largest; perianth segments four, broadly ovate; *stamens* very numerous, crowded on a slightly elevated torus; filaments filiform; *anther* broadly obovate, obtuse; *female* flower, perianth segments five, as in the male flower. *Ovary* green, obcuneate, unequally three-winged; *style* trifid, lobes bifid, with spiral stigmatic bands; *placenta* bifid and lobed, the lobes ovuliferous all over.—*J. D. H.*

Fig. 1. Ovary and style and stigmas. 2. Transverse section of ovary. 3. Stamen:—*all magnified.*

5664.



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TAB. 5664.

EPIDENDRUM BRASSAVOLÆ.

Brassavola-like Epidendrum.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra,* TAB. 4107.)

EPIDENDRUM *Brassavolæ;* pseudobulbis semifusiformibus compressis diphyllis, foliis oblongis acutis racemo multifloro 2–3-plo brevioribus, sepalis petalisque subæqualibus lineari-lanceolatis acuminatis, labello longè cuneato oblongo acuminato lineis tribus per discum carinato, androclinii dentibus lateralibus triangulo-semilunatis extus medio unidentatis, denti medio spathulato sursum serrulato. *Rchb.*

EPIDENDRUM Brassavolæ. *Rchb. in Bot. Zeitung,* 1852, *p.* 738; *et in Beitr. Orchid. Flora Cent. Amer. p.* 36. *Lindl. Folia. Bateman in Gard. Chron.* (1867), *p.* 682.

This very distinct *Epidendrum* was discovered by the late Mr. Skinner on the mountains of Guatemala, and he it was who gave me (in 1865) the plant from which the accompanying figure was obtained. Professor Reichenbach had previously examined wild specimens of the same thing, gathered on the volcano of Chiriqui, and these suggested to him the very appropriate name of *Brassavolæ,* under which he described it several years ago in a German periodical. But, although long known to botanists, I am not aware of the species having ever flowered in England before the present summer, when a spike made its appearance in the Mexican house at Biddulph Grange, in which the quaint form and singular colour of its blossoms attracted much attention. It grows freely, and will, no doubt, prove to be a popular favourite, especially when it has become strong enough to produce such copious heads of bloom as those that are preserved in the herbaria. The flowers continue a long time in beauty, and, though scentless by day, are agreeably fragrant by night. It is most nearly allied to *E. prismatocarpum,* but is a far handsomer plant; nor does it require so much heat as that species.

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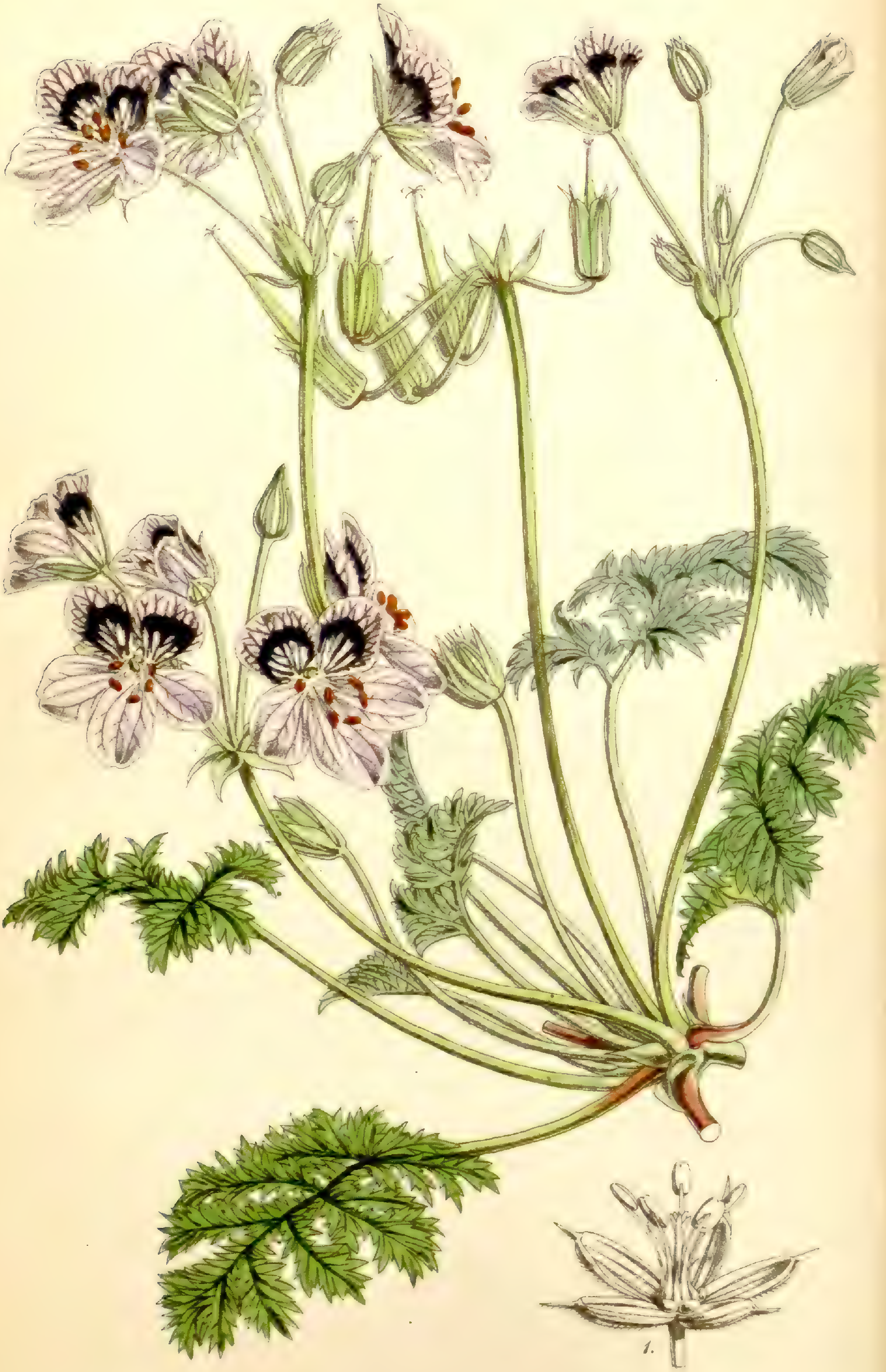
Descr. *Pseudobulbs* compressed, somewhat fusiform, a span long, bearing two leaves. *Leaves* oblong, acute, much shorter than the *raceme*, which is many-flowered, and sometimes attains the height of from two to three feet. *Flowers* nearly four inches across, arranged in a raceme proceeding from a short pointed spathe. *Bracts* triangular, much shorter than the ovaries. *Sepals* and *petals* nearly equal, spread wide open, about two inches long, linear-lanceolate, acuminate, of a rich yellowish-brown. *Lip* not quite so long as the petals, oblong, wedge-shaped at the base, acuminate at the apex, where it is tipped with a patch of lovely mauve, the other portions being straw-colour; along its disk run two or three carinate lines. *Column* three-toothed, the side teeth being triangular and semilunate, while that in front is spathulate and serrulate.—*J. B.*

Fig. 1. Column. 2 and 3. Pollen-masses:—*magnified.*

5665.



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Vincent Brooks, Im

Tab. 5665.

ERODIUM MACRADENIUM.

Spotted-flowered Storksbill.

Nat. Ord. Geraniaceæ.—Monadelphia Pentandria.

Gen. Char. Flores regulares v. vix irregulares. *Sepala* 5, imbricata. *Petala* 5, imbricata. *Glandulæ* 5, petalis alternæ. *Stamina* 5, cum staminodiis totidem anantheris alternata et basi cum iis in tubum connata. *Ovarium* 5-lobum, 5-loculare, rostratum, rostro in stylum abeunte, ramis 5 longitudinaliter stigmatosis; ovula in loculis 2, superposita. *Capsula* 5-loba; lobi 1-spermi, ab axi placentifero septifrage dehiscentes, caudis a basi ad apicem elastice revolutis. *Semina* exalbuminosa, cotyledonibus plicatis v. flexuosis.—Herbæ, *rarius* suffrutices, *ramis sæpe articulato-nodosis.* Folia *opposita, altero sæpe minore, v. alterna, dentata lobata v. dissecta.* Stipulæ *membranaceæ.* Pedunculi *axillares.* Flores *sæpius umbellati, rarius solitarii v. 2-ni.*

Erodium *macradenium;* acaule, foliis petiolatis ambitu oblongis pinnatisectis pubescenti-glandulosis, segmentis pinnatifidis, rachi dentata, pedunculis umbelliferis, involucri foliolis lanceolatis v. ovatis acuminatis, sepalis anguste oblongis longe mucronatis, petalis obovatis, 2 superioribus paulo minoribus plaga lata purpurea notatis, seminibus estriatis.

Erodium macradenium. *L'hérit. Géran. t.* 1. *Gren. et Godr. Fl. France. v.* 1. *p.* 313.

Erodium graveolens. *Lapeyr. Hist. Pl. Pyrén. abrégée, p.* 390.

Erodium glandulosum. *Willd. Sp. Pl. v.* 3. *p.* 628. *DC. Prodr. v.* 1. *p.* 645.

Geranium glandulosum. *Cav. Diss. v.* 5. *t.* 125. *f.* 2.

Geranium radicatum. *Lapeyr. Fl. Pyrén. v.* 1. *t.* 1.

There can be little doubt but this charming hardy perennial plant is the very rare *Erodium macradenium*, L'hérit., though it does not agree with the author's character in having acute petals, nor with the descriptions of Willdenow and Lapeyrouse, who describe the two spotted petals as larger than the others; nor with Willdenow's observation that the involucral leaves are linear-lanceolate. Still, the habit and all other characters, including the colour of the flower, agree so precisely with those of *E. macradenium*, that it is im-

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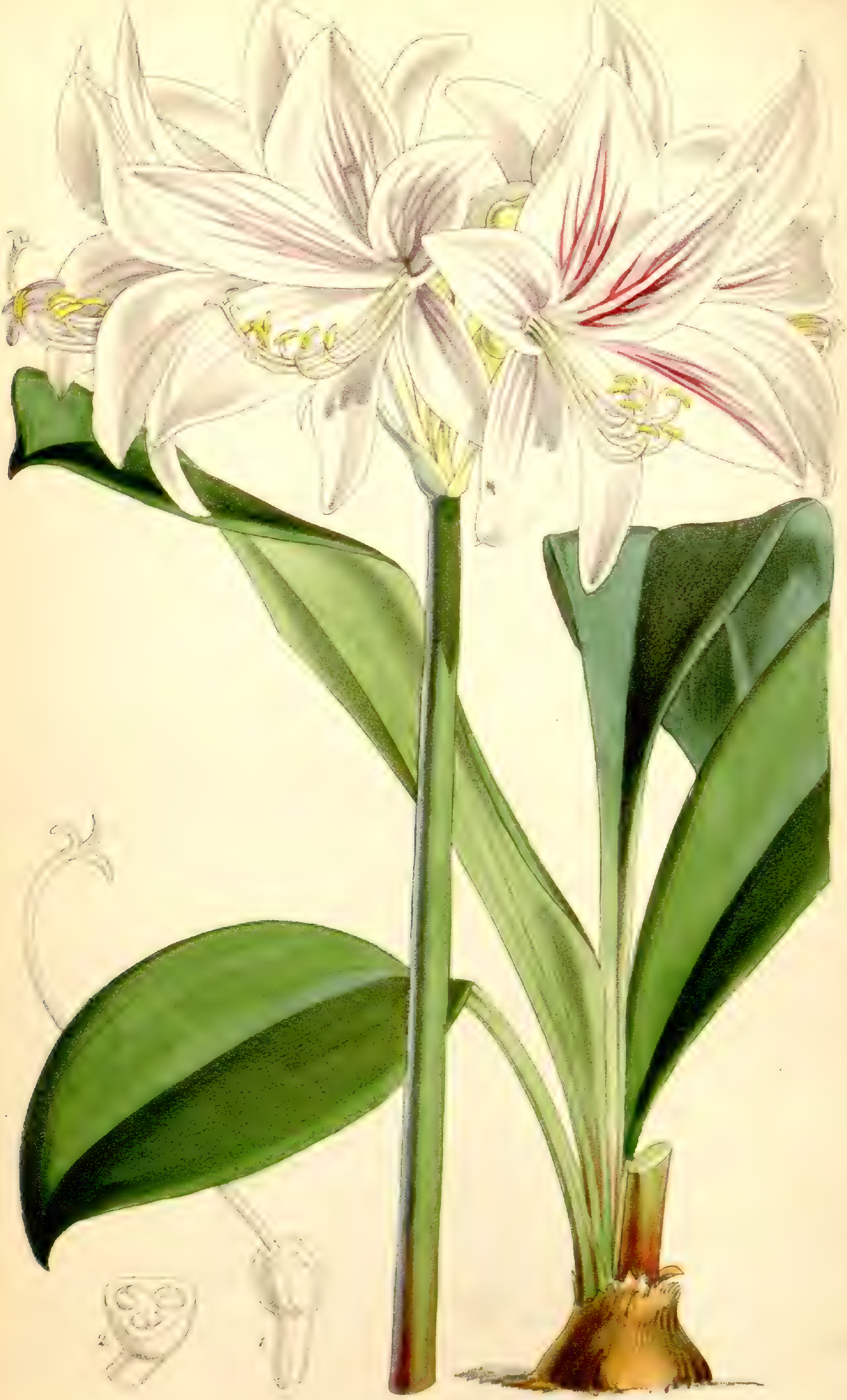
possible to separate it specifically by the slight and probably variable differences above noted.

E. macradenium is a native of the Pyrenees, where it was discovered by Lapeyrouse in 1782, who describes it as being remarkable for the extraordinary length and peculiar form of the roots, and strong, acrid, penetrating odour of the foliage. The specimens figured were received from Messrs. Backhouse, to whom we are also indebted for living plants now flowering in the Royal Gardens.

Descr. *Root* very large, stout, long, tortuous amongst rocks, crowned with the ragged bases of the old leaves. *Stem* scarcely any. *Leaves* crowded near the top of the root, spreading, on long petioles, hairy and glandular, one and a half to two inches long, oblong in outline, pinnate, the segments linear-oblong, pinnatifid; rachis with a toothed wing. *Peduncles* longer than the leaves, ascending. *Flowers* umbellate, three-quarters of an inch in diameter. *Involucral leaves* ovate or lanceolate, acuminate. *Sepals* oblong-linear, with a long, subterminal mucro. *Petals* longer than the sepals, obovate; two upper purple, with a deep black-purple horse-shoe spot, and purple veins; three lower pale purple.—*J. D. H.*

Fig. 1. Calyx and pistil:—*magnified.*

5666.



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TAB. 5666.

GRIFFINIA BLUMENAVIA.

Dr. Blumenau's Griffinia.

Nat. Ord. AMARYLLIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Perianthium corollinum, superum, tubo brevi cylindrico, limbo inæquali sub-2-labiato 6-partito, lobo inferiore porrecto. *Stamina* 6, summo tubo inserta, filamentis filiformibus, declinatis v. uno assurgente, reliquis declinatis; *antheræ* versatiles. *Ovarium* inferum, 3-loculare; *stylus* 3-sulcus, *stigmate* indiviso 3-fido v. 3-lobo; *ovula* in loculis 2, collateralia. *Capsula* membranacea, 3-sulca, 3-locularis. *Semina* in loculis subsolitaria, obovata, erecta, testa ochroleuca nitida; *embryo* axilis.—Herbæ Brasilienses, *bulbo radicali tunicato.* Folia *pauca, petiolata, oblonga, costato-nervosa.* Scapus *subcylindricus, solidus.* Flores *umbellati, spatha 2-valvi arida.*

GRIFFINIA *Blumenavia;* foliis subgraciliter petiolatis oblongo-lanceolatis, floribus 3 unc. diam., perianthii foliolis oblongo-lanceolatis obtusis albis, 5 superioribus roseo-venosis, superiore latiore, inferiore angustiore, stigmate 3-fido, lobis acutiusculis recurvis.

GRIFFINIA Blumenavia. *Koch et Bouché ex Carrière, in Rev. Horticole,* 1867, *p.* 32, *cum icone pessima.*

A very charming tropical bulbous plant, discovered by Dr. Blumenau at St. Catherine's, Brazil, and sent by him to the Berlin Botanic Gardens. It is advertised by Messrs. Haage and Schmidt in their catalogue for 1867, and the Royal Gardens, Kew, are indebted to Messrs. E. G. Henderson and Son for specimens which flowered in April of the present year. The figure in the 'Revue Horticole' is so bad, that it would have been impossible to have recognized the species by it, and as it is, I am indebted to Messrs. Haage and Schmidt for the verification of the plant.

The genus *Griffinia* seems to be very closely allied to *Amaryllis*, differing conspicuously in the persistent leaves. Endlicher describes it as having a stamen ascending, which we do not observe in this plant. Herbert, again (on 'Bulbous Plants,' p. 228), implies that all are declinate. Endlicher says the stigma is undivided or obsoletely three-lobed, whereas in *G. Blumenavia* it is three-cleft.

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Descr. *Bulb* as large as a wild hyacinth, covered with brown scales. *Leaves* numerous, four to five inches long, on rather slender petioles, oblong-lanceolate, acuminate, obscurely nerved in a young state, as figured, ribbed and marked with transverse veins when old. *Scape* erect, six to eight inches long, terete, solid. *Umbel* six- to eight-flowered; spathes membranous. *Peduncles* one inch long. *Perianth* white, three inches in diameter; segments oblong-lanceolate, obtuse, all but the lowest traversed with fine, broad, pale rose-coloured veins; uppermost broadest, lowermost narrowest and pointed. *Filaments* slender, all declinate; *anthers* yellow. *Stigma* trifid, lobes acute.—*J. D. H.*

Fig. 1. Pistil. 2. Transverse section of ovary:—*both magnified.*

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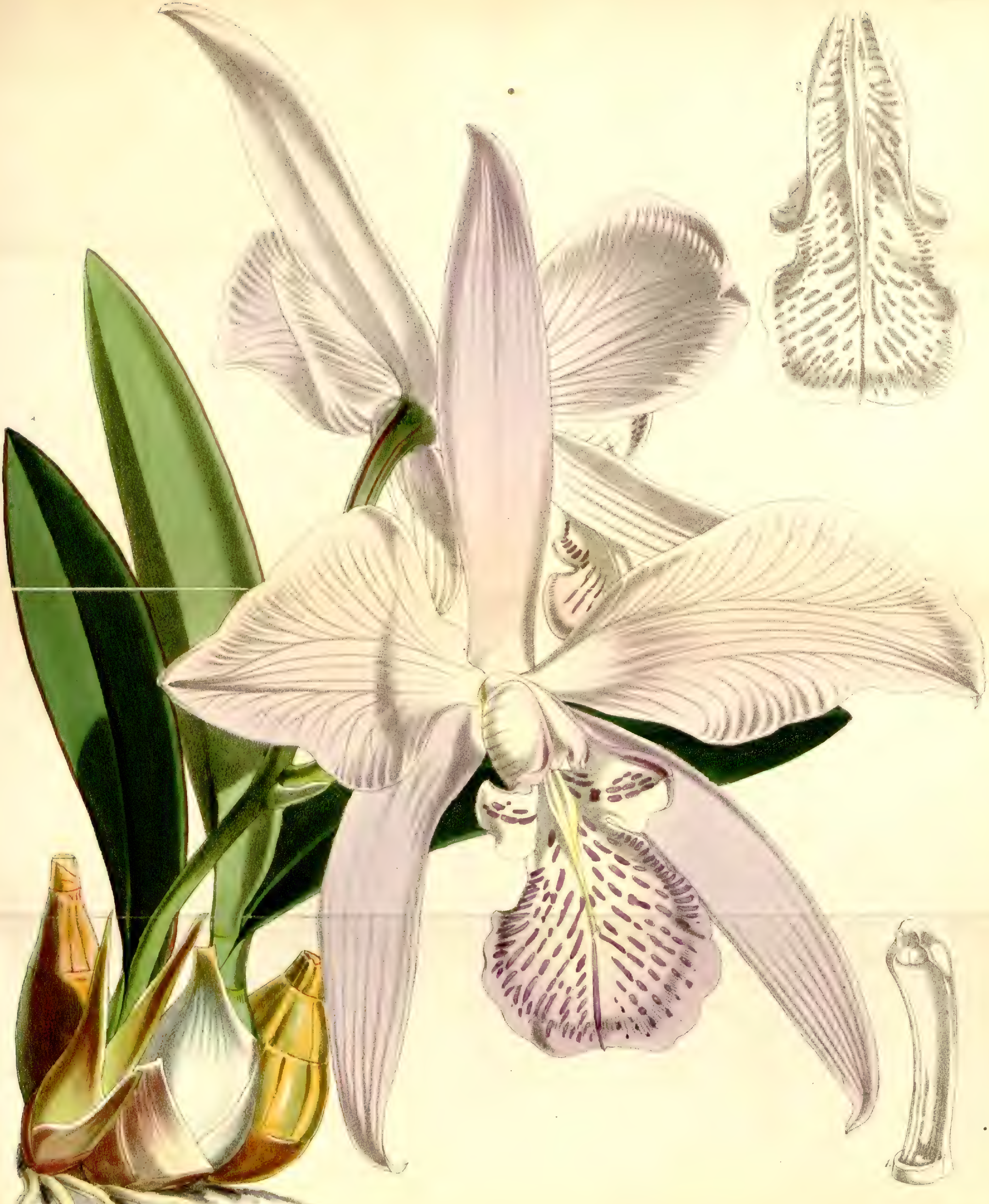

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5667.

LÆLIA MAJALIS.

May-flowering Lælia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra,* TAB. 158.)

LÆLIA *majalis*; pseudobulbis ovatis vel subrotundis, foliis solitariis coriaceis oblongis, spicis 1- vel rarissime 2-floris subæqualibus, bracteis membranaceis ovatis, sepalis lanceolatis petalis oblongo-lanceolatis duplo latioribus, labelli lobo medio rotundato emarginato plano, lateralibus parvis obtusis. *Lindl.*

LÆLIA majalis. *Bateman, Orchid. Mex. et Guat. t.* 23. *Bot. Reg. v.* 30. *t.* 30. *Paxton, Mag. v.* 12. *p.* 1.

BLETIA speciosa. *Hb. Bonpl. et Kunth, Nov. Gen. et Spec. v.* 1. *p.* 342. *Rchb. in Walpers' Ann. v.* 6.

BLETIA grandiflora. *La Llave.*

This magnificent Mexican Orchid has long been known to botanists. Hernandez was the first to notice it, and he gives it a place by the side of the glorious *Tigridia pavonia* and a *Stanhopea* (probably *S. Martiana*) in the singular frontispiece that he prefixed to his work on the natural history of New Spain, published about two hundred years ago. Early in the present century it caught the eye of Humboldt himself, by whom, or rather by his collaborateur Kunth, it was described under the name of *Bletia speciosa.* Lexarza, the companion of La Llave, subsequently found it growing over the whole province of Mechoacan, but failing to identify it with Humboldt's plant, published it under the designation of *B. grandiflora.* Later still, when it flowered in Mr. Llewelyn's collection at Penllargare, Dr. Lindley, supposing it to be a new Lælia, gave it the name of *L. majalis*, which is merely a Latin rendering of the vernacular name, "Flor de Mayo," by which the species is known over nearly the whole of Mexico, and which of course indicates the usual period of its blossoming; and although the latter name has, as regards priority, no right to stand, still, as it has been accepted over all Europe, it would scarcely be desirable, even if it were possible to disturb it.

OCTOBER 1ST, 1867.

This Lælia is no stranger, having been introduced for thirty years at least, and I well remember being present at the unpacking of a quantity of it that had been brought over on speculation in 1837 by a M. Deschamps, who was much surprised to discover that because a few plants of the species had been sold for several guineas a-piece, a cargo of many hundreds could not find purchasers at the same rate. But however numerous the specimens, none of them survived for more than a few years, as was the case with a subsequent importation of the same thing by the Horticultural Society. In two or three instances, indeed, flowers were produced, but they gave a very inadequate notion of the beauty of the plant which was not likely to succeed permanently under other than cool treatment. It was reserved for Mr. Anderson, gardener to Mr. Dawson of Meadow Bank near Glasgow, to produce flowering specimens fully equal to those that the plant sends forth in such rich profusion in its native haunts, and which, exhibited at South Kensington in the beginning of June last, excited much astonishment and admiration. One of these is represented on the opposite side, and its beauty is not in the slightest degree exaggerated in Mr. Fitch's drawing, excepting that *two* flowers are shown on a spike as sometimes, though rarely, occurs in the wild specimens; in cultivation it has hitherto produced only solitary flowers, but these were more than a span across.

Mr. Anderson's plants are accustomed to a rather close and warm temperature during the day in summer, but at night are kept as cool as possible, while in winter they are allowed a decided rest. I apprehend, however, that a cool airy and rather dry temperature,—an imitation, in short, of the Mexican climate,—will be found at least equally efficacious; at all events, in such a climate my own plants are thriving beautifully, being suspended near the glass on branch orchid-pots.

Descr. *Pseudobulbs* ovate or subrotund, two inches high, and bearing solitary, leathery, oblong *leaves*, which are about the length of the *flowers*, *i. e.* fully a span across. *Bracts* membranaceous, ovate. *Spikes* short, issuing from apex of the bulb. one- or (very rarely) two-flowered. *Sepals* lanceolate. *Petals* oblong-lanceolate, twice the width of the sepals, and like them of a beautiful rosy-lilac. *Lip* three-lobed, the middle lobe emarginate, rounded, its edges lilac, and its centre white with lilac streaks, the side lobes small, white inside, with lilac streaks.—*J. Bateman.*

Fig 1. Column. 2. Lip:—*natural size.*

5668.

W Fitch del et lith

Vincent Brooks Imp

= Hohenbergia stellata Schult.

TAB. 5668.

ÆCHMEA GLOMERATA.

Crowded-flowered Æchmea.

Nat. Ord. BROMELIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5447.)

ÆCHMEA *glomerata;* foliis e basi amplexantibus sensim dilatatis late lineari- v. oblongo-ligulatis cuspidatis 3–4 poll. latis viridibus, margine spinulis remotiusculis brevibus nigris inferioribus crebrioribus recurvis ornato, scapo erecto folio longiore ramoso viridi-roseo picto, ramis brevibus undique floriferis, floribus bracteatis dense glomeratis, bracteis basi ovatis dein subulatis sepalisque erectis imbricatis sanguineis pungentibus, petalis violaceis acuminatis, ungue apice 2-squamato, filamentis filiformibus.

PIVONNEAVA glomerata. *Gaud. Voy. Bonite, t.* 63.

HOPLOPHYTUM augustum, *partim. Beer, Die Familie der Bromeliaceen, p.* 136.

A native of the province of Bahia, in Brazil, from whence living specimens were sent in 1863 by C. Williams, Esq., of that city, which flowered in the Palm House of the Royal Gardens in March of the present year. It is a most beautiful plant, easy of cultivation, and is very effective at a season when the tropical houses are rather deficient in conspicuous plants.

This species is exceedingly well figured in the 'Botany of the Voyage of the French Frigate Bonite,' a work which is unfortunately unaccompanied by descriptive matter; it there bears the generic name of *Pivonneava*, which is probably synonymous with Beer's *Hoplophytum*, founded on a group of Æchmeas with rigid spinescent foliage, branched inflorescence, an ovoid ovary crowned with the subulate calyx-teeth, an almost closed perianth, and erect petals.

Beer, in the above-quoted work, confounds this with the *H. augustum* (*Tillandsia augusta*, Arrab. Fl. Flum. t. 135), a plant with woolly inflorescence, and much smaller flowers, according to the figure.

OCTOBER 1ST, 1867.

Descr. Quite glabrous. *Stem* simple, or branched at the base only. *Leaves* spreading on all sides, one to two and a half feet long, four to six inches broad, linear oblong, rounded at the apex, with a cuspidate point; beset along the margin with short, rather distant, black spines, those on the lower part recurved and closer-set, dull green, not glaucous nor shining, nerveless, concave below, not thick in texture. *Scape* stout, erect, six to eight inches high, bearing a brilliantly coloured blood-red branched panicle, of large bracts studded with small violet flowers; rachis green, tinged with red; floriferous branches short, thick, forming with the dense bracts broadly ovoid masses. *Bracts* rather longer than the flowers, subsquarrose, ovate, with long subulate pungent apices. *Calyx-lobes* ovate, acuminate, pungent. *Petals* twice as long, violet; blade linear-oblong, with recurved acuminate apex, the claw with two scales at the junction with the blade. *Filaments* filiform; *anthers* linear. *Stigma* subclavate, with a twisted apex.—*J. D. H.*

Fig. 1. Flower. 2. Petal and stamens. 3. Ovary, style, and stigma:—*all magnified.*

5669.

Tab. 5669.

RONDELETIA Purdiei.

Mr. Purdie's Rondeletia.

Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

Gen. Char. Calycis tubus subglobosus; limbus 4–5-partitus, lobis oblongis linearibusve acutis persistentibus. *Corollæ* tubus cylindricus, limbo patenti 4–5-fido, lobis subrotundatis. *Stamina* 4–5; antheræ fauce calycis insertæ, sessiles, inclusæ. *Discus* tumidus. *Ovarium* 2-loculare; stylus filiformis, stigmate 2-fido; ovula numerosa, placentis septo adnatis affixa. *Capsula* globosa, calycis limbo coronata, 2-locularis, ab apice ad basin loculicide v. septicide in valvas 2 apice fissis dehiscens, polysperma. *Semina* minima, angulata, 2 v. plura perfecta.—Frutices *v.* arbusculæ Americæ tropicæ *incolæ.* Folia *sessilia v. petiolata.* Stipulæ *interpetiolares, deltoideæ v. lineari-lanceolatæ.* Flores *inter minores, in pedunculos axillares 3-chotomos paniculasve sæpe multifloras terminales dispositi.*

Rondeletia *Purdiei;* ramulis et inflorescentia subsericeo-puberulis, foliis ovato-oblongis obtusiusculis in petiolum brevem angustatis v. basi contracta cordata utrinque glaberrimis v. subtus ad nervos puberulis, nervis plurimis, stipulis deltoideis, floribus in corymbos terminales densifloros 3-chotome ramosos dispositis 4–5-meris flavis, calycis lobis subulato-lanceolatis tubo subæquilongis, corollæ flavæ lobis glabris, fauce annulo tumido 5-lobo aucto.

A very charming and fragrant hothouse shrub, a native of various parts of Venezuela and New Granada, and introduced into the Royal Gardens, upwards of twenty years ago, by Mr. Purdie, an eminent collector for the establishment, who was afterwards Curator of the Botanic Garden at Trinidad. Mr. Purdie sent it from the province of St. Martha. where it has been also collected by Goudot and by Schlim (n. 17 and 926), and the same plant has been found in Venezuela by Fendler (n. 586).

As a species it is well marked by the obtuse leaves, which are suddenly contracted to a narrow base, their numerous oblique veins. and the large corymbs of yellow flowers; the mouth of whose corolla is surrounded by a thickened ring. It is a free flowerer, and very fragrant.

October 1st, 1867.

DESCR. A slender *shrub,* with almost silky pubescent branchlets and inflorescence. *Leaves* three to eight inches long, ovate-oblong or almost oblong-lanceolate but obtuse, narrowed at the base into the very short petiole, or suddenly (in the larger lower leaves) terminating in a small cordate base, glabrous and deep green above, with a red midrib ; pale and usually glabrous below, with many (sometimes ten to fourteen) oblique nerves on each side the costa. *Stipules* triangular, silky-pubescent. *Flowers* small, half an inch long, crowded in terminal and axillary rounded corymbs, pale yellow, fragrant. *Calyx-lobes* as long as the tube, subulate-lanceolate. *Corolla* with a thickened ring at the throat.—*J. D. H.*

Fig. 1. Flower :—*magnified.*

5670

W Fitch del. et lith

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TAB. 5670.

THAPSIA DECIPIENS.

Madeiran Thapsia.

Nat. Ord. UMBELLIFERÆ.—PENTANDRIA DIGYNIA.

Gen. Char. Calycis dentes inconspicui. *Petala* cuneato-obovata, apice inflexa, integra v. ob costam impressam 2-fida. *Discus* depressus v. explanatus, stylopodiis variis. *Fructus* oblongus, a dorso compressus, carpellis dorso leviter convexis 2-alatis; juga primaria filiformia, æqualia, obtusa, lateralia inter alas juxta commissuram sita, secundaria dorsalia primariis conformia, lateralia in alas latas cum plaga commissurali continuas expansa; *vittæ* sub jugis secundariis v. omnibus solitariæ. *Carpophorum* 2-partitum. *Semen* complanatum.—Herbæ Mediterraneæ *et* Madeirenses, *perennes* v. *biennes, sæpius elatæ, caudice nunc valde elongato frutescentes.* Folia *pinnatim decomposita, segmentis inciso-pinnatifidis.* Umbellæ *compositæ, multiradiatæ.* Involucrum *sæpius* 0; *involucellorum bracteæ paucæ parvæ v.* 0. Flores *flavicantes, sordide albi* v. *purpurascentes.*

THAPSIA *decipiens;* caule nudo erecto gracili simplici annulato apice folioso, foliis 2–3-pinnatisectis, segmentis ovatis ovato-lanceolatisve inciso-serratis nunc lobulatis, petiolis rachi costaque subtus tomentosis, umbellis in paniculas elatas ramosas dispositis pubescentibus, involucri foliolis 10–12 oblongis inciso-serratis v. pinnatisectis, carpellorum alis serratis.

SELINUM decipiens. *Schrad. et Wendl. Sert. Ham. v.* 3. *p.* 23. *t.* 13.

MELANOSELINUM decipiens. *Hoffm. Umb. ed.* 2. *v.* 1. *p.* 156, *ex DC. Prodr. v.* 4. *p.* 208. *Lowe, Manual of Flora of Madeira, p.* 362.

This is one of the most remarkable Umbelliferous plants in cultivation, and though of little beauty as regards inflorescence, is in habit and foliage an extremely elegant and graceful plant. Unlike its congener, it has a slender, erect, annulate, palm-like stem, two to four or even six feet high, and half to one inch in diameter, bearing at the top a splendid waving crown, three to four feet across, of two to three pinnatisect leaves. It is a native of rocky gorges in the island of Madeira, where it was first brought to light, in 1829, by the Rev. R. T. Lowe, M.A., the distinguished investigator of the natural history of the Madeira, Canarian, and Cape de Verde Islands. Curiously enough, however, it had been for many years previously in cultivation under the name of *Bubon Galbanum* (a totally different and Persian plant), owing to which mistake De Candolle gave it the specific name of *decipiens*.

The Rev. Mr. Lowe describes the *T. decipiens* as a magnificent, palm-like Umbellifer, exuding, when cut or bruised, a copious, fragrant gum or resin, smelling of spirits of turpentine and carrots, and having fragrant flowers also. He adds that it is usually biennial, dying altogether after flowering; but sometimes the paniculate inflorescence alone dies, and the plant becomes branched.

The specimen here figured flowered in the succulent house of the Royal Gardens in April of the present year. It has perfected seeds since the drawing was made.—*J. D. H.*

Fig. 1. Reduced figure of the entire plant. 2. Portion of flowering panicle. 3. Ditto of leaf. 4. Flower. 5. Imperfect ditto at base of umbel. 6. Fruit. 7. Ditto. 8. Transverse section of unripe ditto:—*all magnified, except* 2, 3, *and* 6, *which are of nat. size.*

5671.

W. Fitch del. et lith.

Vincent Brooks Imp.

TAB. 5671.

EPIMEDIUM ALPINUM; var. *rubrum*.

Red-flowered Barren-wort.

Nat. Ord. BERBERIDEÆ.—TETRANDRIA MONOGYNIA.

Gen. Char. *Sepala* 8, petaloidea, plana, exterioribus minoribus minusque coloratis, et *petala* 4 nectariformia cucullata v. calcarata 4-fariam superposita. *Stamina* 4, libera; antheræ valvulis 2 sursum dehiscentes. *Carpellum* 1, stigmate parum dilatato; ovula ∞, juxta suturam ventralem 2-serialia. *Capsula* siliquæformis, 2-valvis, valva dorsali minore decidua, majorem placentiferam nudante. *Semina* pauca, raphe arillæformi; embryo leviter incurvus.—Herbæ Europæ *et* Asiæ temperatæ *incolæ, rhizomate repente.* Folia *pinnatim semel bisve 3-secta, foliolis denticulatis, caulina* 1–2. Racemi *simplices v. subramosi, terminales v. oppositifolii.* Flores *varie colorati.*

EPIMEDIUM *alpinum;* sparse glanduloso-pilosum, foliis radicalibus v. caulinis 2-ternatis, foliolis ovato-cordatis acuminatis ciliolato-serratis, sepalis concavis obtusis, petalis interioribus cucullatis in calcar horizontale petalum exterius subæquans productis, antheris linearibus apiculatis filamentis brevibus.

Var. *rubrum;* foliis rubro-marginatis, petalis exterioribus rubris.

EPIMEDIUM rubrum. *Morren in Journ. d'Hort.* 1844. *Regel in Ind. Sem. Hort. Petrop.* 1856, *p.* 33. *Gartenflora,* 1857, *p.* 21.

A very elegant, hardy, herbaceous plant, equally suited for the shady border or rockwork, and for early greenhouse decoration. Originally introduced into the St. Petersburg Gardens, from Japan, in 1844, and since cultivated in various establishments. The specimen here figured has flowered in the Royal Gardens in April and May for several years past. I find no character whatever, except the rather larger size and the red colour of the flowers, by which it may be distinguished from the well-known reddish-yellow-flowered *Epimedium alpinum,* a plant of which no detailed description is required.

It is very much to be desired that plants of the habit of growth of that here figured should be more extensively cultivated. Their forms are peculiarly graceful, and suited for pot-culture and table-decoration; their bright foliage is rigid, and retains its appearance uninjured for weeks, whether in-doors or out-of-doors, and nothing can exceed the delicate grace of the panicle of nodding flowers. There are several other species of *Epimedium* equally deserving of culture, as *E. macranthum*, *E. Musschianum* (Tab. nostr. 3745), *E. pinnatum* (Tab. 4456), *E. violaceum* (Tab. 3791), and *E. diphyllum* (Tab. 3448). All are hardy, all suited for decoration, and a collection of half-a-dozen of the spring-flowering species, brought forward into flower at the same time by a skilful gardener, would deservedly command a high award at any horticultural exhibition.—*J. D. H.*

Fig. 1. Inner petal. 2. Ovary. 3. Stamen:—*all magnified.*

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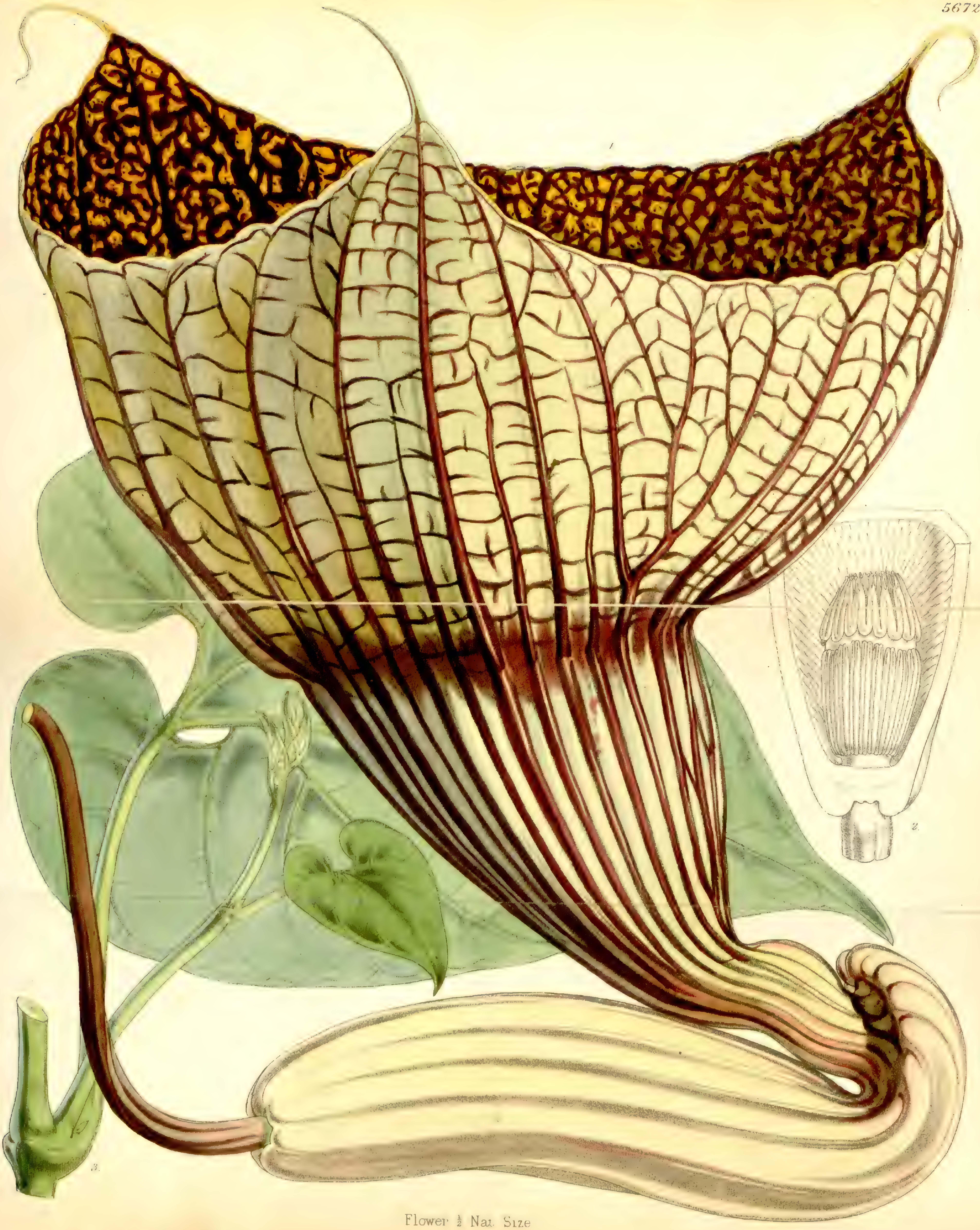
5672



Flower ½ Nat. Size

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TAB. 5672.

ARISTOLOCHIA GOLDIEANA.

The Rev. H. Goldie's Aristolochia.

Nat. Ord. ARISTOLOCHIEÆ.—GYNANDRIA HEXANDRIA.

Gen. Char. (*Vide supra*, TAB. 5295.)

ARISTOLOCHIA *Goldieana;* glaberrima, foliis ovato- v. triangulari-cordatis acuminatis, basi profunde exsculptis, floribus maximis, perianthii refracti utriculo elongato subclavato, limbo infundibuliformi-campanulato, ore ampliato truncato obtuse 3-lobo, lobis caudato-acuminatis, staminibus ad 24, columnæ lobis ad 12 2-cruribus.

ARISTOLOCHIA Goldieana. *Nob. in Trans. Linn. Soc. v. 25. p.* 185. *t.* XIV.

South America has hitherto been considered the headquarters of the gigantic flowers *Aristolochias*, so well known in the stoves of the gardens of the curious for the fine colouring of their perianth and their atrocious odour. Of these, Humboldt, upwards of half a century ago, published an account of one (*A. grandiflora*, Tab. nostr. 4368–9) whose flowers were worn on the head by the Indian children, and which has often been quoted as (excepting perhaps the *Rafflesia Arnoldii*) the largest flowered plant hitherto known. However this may be, the American Aristolochias are eclipsed by the discovery of the present plant, of which specimens, preserved in alcohol, were communicated to me, in 1864, by the Rev. W. C. Thomson, from the mouth of the Old Calabar river, and which I described and figured in the 'Linnean Transactions' above quoted, and named, in accordance with Mr. Thomson's wish, after his fellow-labourer, the Rev. Hugh Goldie, of the United Presbyterian Missionary Society.

The merit of flowering *A. Goldieana* is due to Mr. Clarke, the zealous and intelligent Curator of the Glasgow Botanic Gardens, who received living specimens from his active correspondent Mr. Thomson, and flowered a plant of it in July of the present year, and the blossom of which he kindly transmitted to the Magazine for figuring.

NOVEMBER 1ST, 1867.

Aristolochia Goldieana differs from all its numerous congeners, except two others, also West African species, in the number of stamens, which are about twenty-four, six being the normal number in the genus; also, in the three-lobed perianth, and in the twelve bifid stigmatic lobes of the column. It has also been gathered in forests near Elugu, by the Bishop of Sierra Leone, who, in 1859, gave specimens to the late Mr. Barter, the Botanist to Baikie's Niger Expedition, and which are preserved in the Hookerian Herbarium. It was also found at Sierra Leone by G. Mann. Its odour of putrid meat is as offensive as that of the Brazilian species.—*J. D. H.*

I greatly regret having to reduce the figure to one-half its natural size to make it available for the Magazine,—the flower drawn having measured 26 by 11 inches.

Fig. 1. Portion of stem and leaf:—*natural size.* 2. Vertical section of side of perianth, showing the colour of stamens and stigmas:—*magnified.*

5673.

[illegible]

Vincent Brooks, Imp.

TAB. 5673.

LILIUM LEICHTLINII.

Max Leichtlin's Lily.

Nat. Ord. LILIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 5338.)

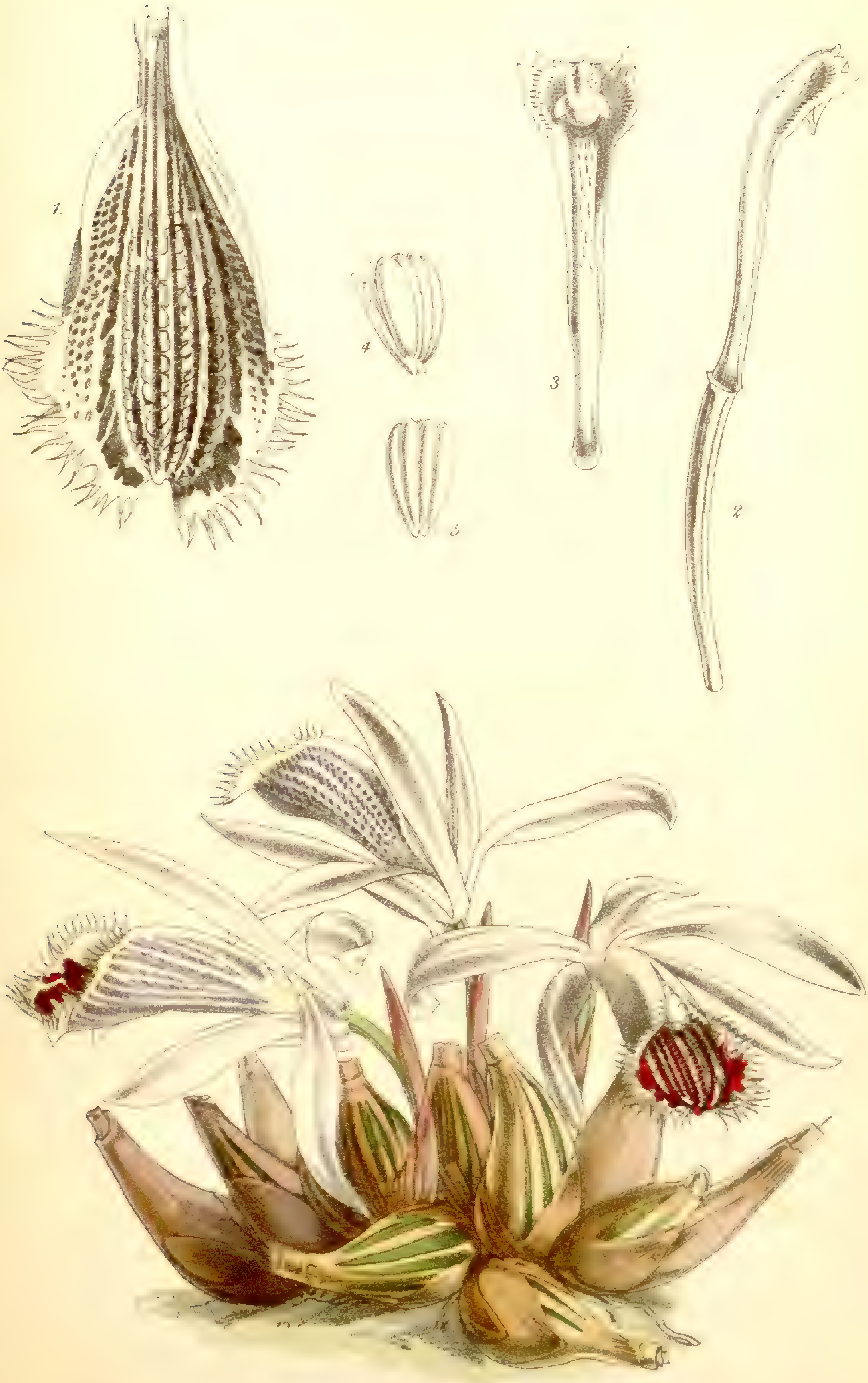
LILIUM *Leichtlinii;* caule 2–3-pedali gracili glaberrimo 1-floro, foliis alternis sparsis lineari-lanceolatis 3–4 poll. longis ¼ poll. latis acutis sessilibus subenerviis ima basi ad insertionem utrinque pilosulis v. villosulis, flore nutante 4 poll. diametro, perianthii foliolis e basi oblonga lanceolatis obtusis revolutis, exterioribus angustioribus, interioribus basin versus 2-cristatis 2-carinatisve cristis carinisve pubescentibus, omnibus aureis purpureo-maculatis, filamentis stramineis, antheris brunneis.

Bulbs of this charming Lily were received by Messrs. Veitch and Sons from Japan, along with those of *L. auratum*, and communicated to me for determination in July of the present year. Though resembling in some respects *L. tigrinum* in the form of the flower, it differs from that plant, not only in colour, but in the graceful habit, scattered leaves, and crested inner segments of the perianth. From the prince of the genus, *L. auratum*, which in some respects it approaches, it differs both in the colour and form of the perianth-leaves, and in wanting the long processes on these which *L. auratum* bears.

I have named this plant after a zealous cultivator of the genus, to whom the Royal Gardens are indebted for various rare species, M. Max Leichtlin, of Carlsruhe, a gentleman who is especially devoting himself to the elucidation, by culture, of the numerous species and races of this noble genus of bulbous plants.

DESCR. *Stem* tall, slender, two to three feet high, terete, glabrous, except where the leaf joins the stem at each side, where a few long hairs appear. *Leaves* alternate, sessile, rather remote, linear-lanceolate, acute, spreading and recurved, three to four inches long by a quarter of an inch broad, pale bright green; nerves obscure. *Flowers* solitary in our specimens, nodding, four inches in diameter, pale golden-yellow, spotted with small oblong blotches of clear red-purple, or maroon-brown. *Perianth* segments revolute, outer narrower, with two keeled pubescent ridges from below the middle to the base; inner segments broader, one inch across, the ridges dilating into irregularly-toothed crests on the disk below the middle. *Filaments* straw-coloured, long, curved; *anthers* yellow brown or purplish, half an inch long. *Style* and *stigma* yellow.—*J. D. H.*

5674.



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TAB. 5674.

CŒLOGYNE HUMILIS.

Dwarf Pleione.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 5462.)

CŒLOGYNE (Pleione) *humilis*; pseudobulbis lagenæformibus, bracteâ oblongo-lanceolatâ petaloideâ ovario longiore demum retractâ, pedunculo denudato, sepalis petalisque lineari-lanceolatis patentibus planis, labello ciliato emarginato, lineis 6 fimbriatis distantibus venis totidem coloratis interjectis. *Lindl.*

PLEIONE humilis. *Don, Fl. Nep. p.* 37. *Paxt. Fl. Gard. t.* 51. *Lemaire, Jard. Fl. p.* 158.

This pretty *Pleione*, although long since introduced and figured, had been lost to the country for many years; no doubt through inattention to its habits and constitution. Fortunately a fresh supply of plants was recently obtained (through Dr. Anderson, of the Calcutta Botanic Gardens) from Sikkim by the Royal Gardens at Kew, and it was here that the one represented in the Plate flowered last winter. It is quite a mountain plant, having been found on the Indian Alps, in Nepal, Sikkim, and Bhotan, at an elevation of seven to eight thousand feet, growing among moss in shady places, and even on the trunks of trees. Dr. Hooker met with several varieties during his travels in the Himalaya, where this and other species take the place of our autumn Crocuses, throwing up masses of gay flowers after the leaves have disappeared. Excepting *Cœlogyne maculata*, which is found two thousand feet lower, all the *Pleione* section of *Cœlogyne* are easily cultivated in the shadiest part of the coolest house; and they form a most interesting group, to which other fine species, not yet introduced, will, I trust, ere long be added. They require to be grown in a pot.

DESCR. *Pseudobulbs* in the form of bottle-flasks, from one to two inches long, of a dark purplish-green, crowned with solitary, narrow, and rather long acuminate dark green *leaves.* *Peduncle* one-flowered, at first enclosed in a pale violet *bract*, which afterwards shrivels up and leaves the peduncle naked. *Sepals* and *petals* open, linear-lanceolate, smooth and even at edges, white faintly tinted with rose. *Lip* fringed in its upper portion, emarginate, of the same colour as the petals, except where it is traversed by six parallel veins (that are also fringed), and between each of which rich crimson streaks are interposed. *Column* clavate, distinctly adnate to the base of the lip, of which it is not much more than half the length.—*J. B.*

Fig. 1. Lip spread out. 2. Side view of column and ovary. 3. Front view of ditto. 4, 5. Pollen masses:—*all more or less magnified.*

5675

W. Fitch del et lith

Vincent Brooks, Imp

TAB. 5675.

BEGONIA CLARKEI.

Major Trevor Clarke's Begonia.

Nat. Ord. BEGONIACEÆ.—MONŒCIA POLYANDRIA.

Gen. Char. (*Vide supra,* TAB. 4131.)

BEGONIA (§ Huszia) *Clarkei;* caulescens, caule erecto robusto puberulo colorato parce ramoso, foliis oblique rotundato-cordatis obtusis lobulatis et crenatis nervis radiantibus ciliolatis, superne pallide viridibus, nervis subtus prominulis, stipulis late triangularibus, pedunculis robustis axillaribus 2-bracteatis 2-floris, pedicellis 2-bracteolatis, bracteis bracteolisque late oblongis obtusis, floribus amplis læte roseis, ♀ 5-petalis.

BEGONIA Clarkei. *Nob. supra, sub Tab.* 5663.

I have already stated with regard to this lovely *Begonia*, under the description of *B. Veitchii*, that I had, from imperfect specimens, regarded it as a form of the latter plant. A fine-flowering specimen, sent by Major Clarke to the Royal Gardens, shows a considerable difference between them, and enables me to give a figure of it here. From a comparison of this with Tab. 5663 (*B. Veitchii*), it will be seen that the present differs in being a caulescent, branched, pubescent but not pilose plant, with purple stem and branches, large opaque foliage, axillary peduncles, and larger, deep rose-coloured flowers.

B. Clarkei is probably a native of a warmer region than *B. Veitchii*, and, as Major Clarke assures me, requires the temperature of a warm greenhouse. This gentleman had possessed the specimens here figured for several years before flowering it, and received it from Messrs. Henderson as a native of Peru. This is apparently the same as a plant gathered by Mandon, near Sorata, in the Bolivian Andes, at an elevation of eight to nine thousand feet, of which specimens, without name, are preserved in the Hookerian Herbarium. Whether this and *B. Veitchii*, together with another allied to it from the same country, and hitherto unpublished, will eventually prove wholly distinct, is, I think, doubtful; they will probably be extensively hybridized, and thus blended for all but horticultural purposes.

Descr. A tall succulent herb, two feet high. *Rhizome* stout. *Stem* pubescent, as thick as the little finger, purplish. *Leaves* six to eight inches in diameter, obliquely orbicular-cordate, obtuse, lobulate and crenate, pubescent, dull green above, nerves radiating; *petioles* stout, three to five inches long. *Peduncles* axillary, stout, longer than the petioles, bibracteate at the middle, two-flowered; *pedicels* slender; *bracts* and *bracteoles* one-third to two-thirds of an inch long, pale, oblong, obtuse, ciliate. *Flowers* two to two and a half inches in diameter. *Female perianth* five-peltated, bright rose-red; *petals* obovate retuse or emarginate. *Styles* three, bifid, the arms twisted and surrounded with a spiral, papillose band. *Ovary* three-lobed, with two short wings, and the third produced into a wedge-shaped form. *Placenta* bifid, the segments lobed and covered everywhere with ovules.—*J. D. H.*

Fig. 1. Transverse section of ovary,—*magnified.*

5676.

W Fitch, del et lith

Vincent Brooks Imp

TAB. 5676.

CYMBIDIUM HUTTONI.

Mr. Hutton's Cymbidium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 5457.)

CYMBIDIUM *Huttoni;* pseudobulbis aggregatis ampullaceo-ovoideis compressis sulcatis basi vaginatis, foliis 2-nis anguste oblongis obtusis crasse coriaceis enerviis læte viridibus, scapo radicali brevi, squamis paucis brevibus late triangularibus, racemo ad 10-flore, sepalis late obovato-oblongis recurvis acuminatis intus labellique lobo intermedio fasciis brevibus brunneis creberrime transverse notatis, petalis minoribus recurvis intus brunneis, labelli lobis lateralibus erectis obtusis longitudinaliter fasciatis intermedio breviter oblongo, columna elongata semiterete.

At first sight this remarkable plant does not much resemble a *Cymbidium*, but after a careful consideration and comparison with the hitherto published species of this genus I see no reason to separate it: the structure and form of the pollinia and their gland is the same, as are the essential characters of the column and perianth; the very coriaceous nerveless leaves are to be found in *C. tigrinum* (Tab. nostr. 5457), but the very broad perianth-segments and their colour are unique in the genus in so far as I know it.

C. Huttoni is a native of Java, and is named after its discoverer, Mr. Henry Hutton (at the request of Messrs. Veitch). in commemoration of his zealous services and early death. Mr. Hutton, a most ardent student and promising collector (son of the Mr. H. Hutton, head gardener to the Right Honourable Lord Houghton), was sent to the East by the Messrs. Veitch, and after twelve months' residence in Java, when, as was hoped, he had become inured to the climate, he fell a victim to his enthusiasm. The plant which commemorates his services flowered with Messrs. Veitch in June of the present year.

NOVEMBER 1ST, 1867.

Descr. *Pseudobulbs* three to five inches long, elongate ovoid, with straight sides, compressed, grooved, green, sheathed to above the middle. *Leaves* in pairs, six to eight inches long, two to two and a half inches broad, narrow oblong, obtuse, very coriaceous, nerveless, dark green. *Scape* from the base of the pseudobulbs, stout, curved with a few distant, short, triangular, appressed scales. *Raceme* about ten-flowered, pendulous, six to eight inches long. *Flowers* shortly pedicelled, an inch and a half in diameter. *Bracts* small. *Perianth* ringent. *Sepals* recurved, obovate, acuminate, pale brown externally, internally studded with transverse, small, short, chocolate streaks or blotches. *Petals* smaller, but similar in form and direction, dark chocolate inside. *Lip* subsessile, lateral lobes erect, obtuse, greenish, striped with chocolate; *middle lobe* oblong, acute, banded on each side of the median line, like the sepals, but darker. *Column* long, semiterete. *Pollen-gland* bicuspidate.—*J. D. H.*

Fig. 1. Lip. 2. Column. 3, 4. Pollen:—*all magnified.*

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TAB. 5677.

CALCEOLARIA PISACOMENSIS.

Orange-red Calceolaria.

Nat. Ord. SCROPHULARINEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4929.)

CALCEOLARIA *pisacomensis;* caule robusto stricto erecto superne ramis et inflorescentia pubescentibus v. furfuraceo-tomentellis, foliis breviter petiolatis ovatis obtusis, marginibus recurvis grosse irregulariter crenatis supra rugosis minute scaberulis, subtus glanduloso-pubescentibus, cymis in axillis superioribus suberectis umbellatim multifloris, floribus erectis gracile pedicellatis, calycis lobis late ovatis subacutis, corollæ rubro-aurantiacæ labio superiore parvo margine reflexo, inferiore magno adscendente calceiformi, antice sublobulato.

CALCEOLARIA pisacomensis. *Meyen, Reise um die Erde, v.* 1. *p.* 469. *Walp. in Nov. Act. Acad. Nat. Cur.* xix. *Suppl. v.* 1. *p.* 396. *Rep. v.* 111. *p.* 162.

This is certainly the handsomest *Calceolaria* that has been introduced for many years; and though, owing to its size, probably unsuited for bedding-out in masses, its robust habit, copious flowers, and beautiful colouring cannot fail to recommend it as one of the choicest recent contributions to the flower-garden. It was imported from Peru by Messrs. Veitch and Sons, through their indefatigable and successful collector, Mr. Pearce, and was originally discovered by the distinguished traveller Meyen, near Arequipa, in Peru. The specimen here figured flowered in Messrs. Veitch's Nursery in August of the present year.

It is very much to be desired that the accession of such fine plants as this would induce cultivators to turn their attention to the extensive genera to which they belong, with the view not only of procuring new species, but of recovering some of their many beautiful once-cultivated congeners. No less than twenty-three handsome species of *Calceolaria* are figured in this Magazine, all from specimens once living in England; probably not half-a-dozen of these now exist in any one collection. Kew ought to possess all, and

DECEMBER 1ST, 1867.

will, I hope, recover some; but it is obviously impossible for any single establishment to afford time, space, and labour to cultivate everything worth keeping, greatly as it is to be desired; it is to local institutions and private establishments that we must look for special collections; and if more of the latter would, instead of aiming at all the novelties of the day, strive to form complete collections of certain classes of ornamental plants, the number of these would be greatly increased, and science as well as horticulture be benefited accordingly.

Descr. A tall, stout, erect perennial. *Stems* glabrous below, pubescent or subtomentose above, obtusely quadrangular. *Leaves* one to two inches long, subsessile, ovate-cordate, obtuse; margins recurved, coarsely irregularly crenate, minutely scabrous above, glandular-pilose below. *Cymes* very numerous in all the upper axils, suberect, umbellate, many-flowered. *Flowers* on slender pedicels, of a rich orange-yellow, passing into bright orange-red. *Calyx lobes* broadly ovate. *Upper lip of corolla* small, reflexed; *lower* large, ascending, slipper-shaped, obscurely lobed in front.—*J. D. H.*

Fig. 1. Stem and branch. 2. Flower:—*magnified.*

5678

W. Fitch del et lith.

Vincent Brooks Imp.

TAB. 5678.

NYCTOCALOS THOMSONI.

Assamese Nyctocalos.

Nat. Ord. BIGNONIACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. Calyx parvulus, subcampanulatus, extus infra os æqualiter 5-dentatus. *Corolla* elongato-infundibuliformis, tubo tereti leviter arcuato; lobi 5, subæquales v. inferiore majore, lati, imbricati. *Stamina* 4, cum rudimento subulato quinti, fauce tubi corollæ inserta, didynama, inclusa, filamentis filiformi-subulatis; *antheræ* loculis divaricatis ab apice connectivi apiculati pendulis. *Discus* annularis. *Ovarium* breviter stipitatum, 2-loculare; *stylus* elongatus, filiformis, stigmate 2-lamellato; *ovula* numerosa, placentis secus margines septi affixis sub-2-seriatim inserta. *Capsula* lanceolata, plana, septifraga, valvis medio carinatis crasse coriaceis. *Semina* . . . .—Frutices *alte scandentes, glabri.* Folia *opposita, 3-foliolata, foliolis integerrimis.* Flores *speciosi, in cymas longe pedunculatas dispositi.*

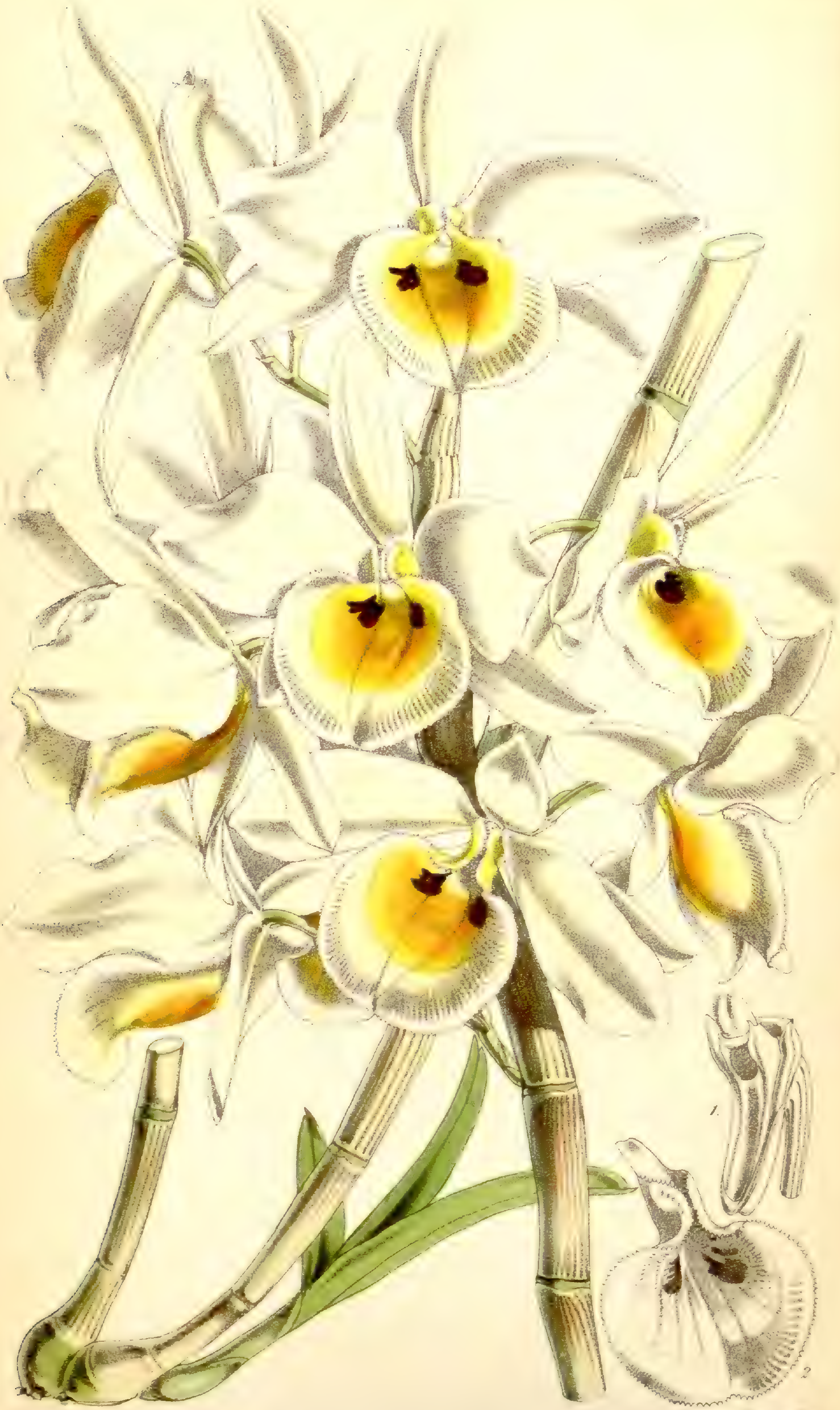
NYCTOCALOS *Thomsoni;* foliolis ovato- v. oblongo-lanceolatis longe acuminatis, pedunculis terminalibus, floribus 7-pollicaribus albis.

We have long had in the Herbarium specimens of this very handsome Bignoniaceous plant, which differs wholly in habit from any Asiatic genus hitherto described, and were gathered on the Miku hills, near Gowahatty, in Assam, by Mr. Simons. It was not, however, till about six years ago that living plants were received from Dr. Thomson, F.R.S., then Superintendent of the Calcutta Botanic Garden, and these have flowered during the present year in the Victoria House, at Kew. Though differing in having four stamens instead of five, and these didynamous, it is no doubt a species of the Javanese genus *Nyctocalos*, of Teijsman and Binnendyk, first published in Miquel's 'Journal de Botanique' (vol. i. p. 366), and figured in 1863 by the same author in his great folio work, 'Choix des Plantes Rares ou Nouvelles Cultivées et Dessinées dans le Jardin Botanique de Buitenzorg.' The Assam species resembles the Javanese entirely in foliage, but has much larger and terminal white flowers, those of *N. brunsfelsiæflorus* being only three inches long, of a pale pinkish-purple, and disposed in axillary cymes. The regular corolla and five equal stamens attributed to the Javanese plant are characters which we should like to see confirmed.

Descr. A tall, glabrous climber; *branches* slender, terete *Leaflets* four to six inches long, petiolulate, ovate- or oblong-lanceolate, long-acuminate, membranous. *Flowers* erect, in short, four- to five-flowered cymes, which are borne on slender, terminal, pendulous peduncles as long as the flowers themselves. *Pedicels* short, thick, with minute acute bracteoles. *Calyx* green, with five red-brown teeth on the outside below the margin. *Corolla* seven inches long, pure white, expanding at night and dropping next morning; *lobes* five, very broad and obtuse or retuse, two upper smaller, approximate, lower largest and two-lobed. *Anthers* yellow. *Pod* six inches long and two inches broad, quite flat.—*J. D. H.*

Fig. 1. Portion of corolla and stamens. 2. Calyx, cut open and showing the ovary. 3. Transverse section of ovary. 4. Pod:—*all but Fig. 4 magnified.*

5679.



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Tab. 5679.

DENDROBIUM Bensoniæ.

Mrs. Benson's Dendrobe.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4755.)

Dendrobium *Bensoniæ;* caulibus suberectis striatis (floriferis aphyllis) teretiusculis, nodis non tumidis, foliis linearibus acutis emarginatisve, floribus ad nodos solitariis v. in pedunculis 2-3-floris dispositis, bracteis minutis acutis, sepalis oblongo-lanceolatis obtusis albis, petalis late oblongo-rotundatis albis, labello orbiculato concavo integro albo, disco tomentoso læte aureo maculis 2 purpureis basin versus notato, marginibus denticulatis.

This beautiful plant belongs to a puzzling set of Dendrobes, natives of the Malayan peninsula, Burma, and Assam, of which *D. Pierardi* (Tab. 2584) is the oldest known member, and *D. crepidatum* (Tab. 4993 et 5011), *D. nodatum* (Tab. 5470), and *D. Bullerianum* (Tab. 5652), more recently discovered members. To the *D. nodatum* the present is, indeed, most closely allied, but differs in the much larger flowers, broader petals, and orbicular labellum, which is rounded at the apex. That intermediate forms, connecting some of these together and with others, will be found, cannot be doubted; meanwhile, as objects of cultivation they differ materially, and it is most important that they should be well figured for ulterior botanical purposes.

D. Bensoniæ is a native of Moulmein, and was sent to Messrs. Veitch by an indefatigable collector and horticulturist, Colonel Benson, after whose lady it is named at his own request. Along with it Colonel Benson has sent, as a smaller form, a plant with more acute petals and sepals, and a tendency to have a pointed lip; this is probably referable to *D. nodatum.*

Descr. *Stems* tufted, one to three feet long, suberect and pendulous, terete, nodes not tumid, internodes one inch long, concealed by the membranous sheath. *Leaves* few, on separate stems from the flower, linear, acute or emarginate, two to three inches long, one-third of an inch broad, keeled. *Flower* produced at the joints, usually two or three on a common peduncle, rarely solitary; *bracts* and *bracteoles* very small, acute, pale green, as are the peduncles and pedicels. *Flowers* two inches in diameter, snow-white, except the lip, which has a broad, deep golden-yellow disk, and two purple spots near the base. *Sepals* oblong, obtuse. *Petals* much broader, almost orbicular. *Lip* orbicular, contracted to a short, convolute neck; edges denticulate, surface concave, finely tomentose. *Column* very short.—*J. D. H.*

Fig. 1. Column and mentum. 2. Lip:—*magnified.*

5680

W. Fitch, del. et lith.

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TAB. 5680.

BEGONIA ROSÆFLORA.

Rose-flowered Begonia.

Nat. Ord. BEGONIACEÆ.—MONŒCIA POLYANDRIA.

Gen. Char. (*Vide supra,* TAB. 4131.)

BEGONIA (§ Huszia) *rosæflora;* acaulis, foliis omnibus radicalibus crasse petiolatis orbiculari-reniformibus basi profunde 2-lobis concavis, marginibus recurvis lobulatis dentatis ciliolatis rubro-marginatis, supra nervis radiantibus impressis bullatis, subtus pallidis, nervis robustis pilosis, stipulis membranaceis, scapis erectis robustis laxe villosis rubris sub-3-floris, bracteis bracteolisque late oblongis obtusis, floribus amplis breviuscule pedicellatis 5-petalis, petalis late roseis orbiculatis emarginatis, filamentis liberis, antheris brevibus latis obtusis, ovario 3-loculari piloso, placentis 2-fidis et lobulatis undique ovuliferis, stylis 3 2-furcatis, cruribus fascia papillosa torta cinctis.

This lovely plant is the second species of *Begonia* allied to *B. Veitchii* (Tab. 5663), which I alluded to under *B. Clarkei* (Tab. 5675), and about the specific distinctness of which I expressed my doubts. In all respects it is much more closely allied to *B. Veitchii* than to *B. Clarkei*, being stemless, with similarly concave leaves and few-flowered scapes; it differs, however very conspicuously, in the stouter red petioles and scapes, in the broader rounder leaves, with very deeply impressed veins (and hence bullate upper surface), in the broad obtuse stipules and bracts, in the villous scape, in the blunt bracteoles close under each flower, in the more numerous flowers, which are of a pale red, like those of the Briar Rose (not the vivid cinnabar-red of *B. Veitchii*), and in the acute wing of the hairy ovary. So many and such conspicuous characters would amongst less variable plants than Begonias abundantly establish these species as distinct, and whether they prove permanent or no, it appears particularly desirable to publish good figures of all these forms on their arrival, and before they fall into the hands of the hybridizers,

by whom the specific characters, of such beautiful and popular plants, will doubtless soon be blended.

B. rosæflora was imported by Messrs. Veitch and Sons from Peru, where it inhabits elevations on the Andes of twelve thousand feet. It flowered in July of the present year.

Descr. A stout stemless herb. *Petioles*, *scapes*, *bracts*, and *stipules* pale or bright red. *Leaves* pale green, two to four inches across, on stout, hairy petioles two to six inches long, orbicular-reniform, very concave, with deeply sunk radiating nerves; margins recurved, lobulate, edged with red, toothed and ciliolate, veins below prominent, hairy, *Stipules* broad, blunt. *Scapes* stout, villous, three-flowered. *Bracts* and *bracteoles* broadly ovate, obtuse, *Flowers* two inches in diameter, bright rose-red. *Petals* five, orbicular, emarginate. *Stamens* very numerous; *filaments* short, free; *anthers* orbicular. *Ovary* hairy, with one short acute wing. *Styles* and *placenta* as in *B. Veitchii*.—*J. D. H.*

Fig. 1. Ovary. 2. Transverse section of ditto. 3 and 4. Stamens:—*all magnified.*

5681.

W Fitch, del et lith.

Vincent Brooks Imp

Tab. 5681.

SACCOLABIUM Huttoni.

Mr. Hutton's Saccolabium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra,* Tab. 5326.)

Saccolabium *Huttoni;* caule breviusculo, foliis crasse coriaceis imbricatis breviter loratis carinatis apice 2-lobis, racemis elongatis multisubdensifloris pendulis, floribus secundis erectis, pedunculis floribusque læte roseo-purpureis, sepalis petalisque patentibus subæqualibus late oblongis apice rotundatis, labelli 3-lobi lobis parvis erectis calcar obtuse infundibuliforme incurvum rubro-purpureum coronantibus, lateralibus subquadratis, intermedio angusto.

Aerides Huttoni. *Hort.*

It is difficult to suppose that this lovely plant should have escaped the many zealous Dutch botanical explorers of its native country, Java, or the collectors attached to the magnificent gardens of Buitenzorg, where more tropical plants are cultivated than in any other garden in the world, and named with scientific accuracy. But neither in books nor catalogues do we find any notice of this plant, which was discovered by Mr. Hutton, whose early, lamented death was alluded to under another of his discoveries (*Cymbidium Huttoni*, Tab. 5676) only last month. It flowered in the collection of its importers, Messrs. Veitch and Sons, in September last, and from its vivid colours ranks as the most beautiful species of the genus hitherto in cultivation.

I have referred this plant to *Saccolabium* rather than to *Aerides*, not doubting but that it is congeneric with *S. ampullaceum*, Lindl. (Tab. nostr. 5595), and *S. miniatum*, Lindl. (Tab. 5326); but I must add, that I know of no valid characters by which these genera are to be distinguished, if I am to follow Lindley's collocation of species under each.

Descr. *Stem* stout, rigid, suberect, closely beset with distichous imbricating foliage. *Leaves* six inches long, loriform.

december 1st, 1867.

rigidly coriaceous, keeled, three-quarters of an inch broad, unequally two-lobed at the apex, deep green. *Raceme* from the axils of the lower leaves, a foot long, pendulous, rather slender, very many-flowered. *Bracts* minute. *Flowers* erect, an inch long from base of spur to tip of upper sepal, bright rose-purple, the lip much deeper-coloured; pedicels paler. *Sepals* and *petals* nearly equal, broadly oblong, rounded at the apex, spreading. *Lip* formed chiefly of the stout funnel-shaped, somewhat incurved, obtuse spur, the mouth of which is formed by the three small erect lobes of the lip; of these the lateral are quadrate; the middle is broadly linear and obtuse.—*J. D. H.*

Fig. 1. Flower,—*magnified.*

5682

W Fitch del et lith

Vincent Brooks Imp

TAB. 5682.

VITIS HETEROPHYLLA, *Thunb.;* var. HUMULIFOLIA.

Hop-leaved Vine.

Nat. Ord. AMPELIDEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. *Calyx* brevis, integer v. 4–5-dentatus v. lobatus. *Petala* 4–5, libera v. apice calyptratim cohærentia. *Discus* varius v. obsoletus. *Stamina* 4–5, infra marginem disci inserta, filamentis subulatis; antheræ liberæ. *Ovarium* ovoideum v. subquadratum, 2- rarissime 3–4-loculare; *stylus* brevis v. 0; *ovula* in loculis 2. *Bacca* ovoidea v. globosa, 1–2-locularis, 1–2-sperma.—Frutices *cirrhi, sarmentosi, sæpe alte scandentes.* Folia *simplicia v. composita.* Flores *parvi, in cymas thyrsosve racemosos paniculatos spicatos v. umbellatos dispositi, non raro polygamo-monoici.*

VITIS *heterophylla*, Thunb.; var. *humulifolia;* caule tereti gracili glabro v. piloso, foliis profunde 3–5-lobis late cordatis sinu aperto, lobis basi constrictis ovato-rhombeis acutis v. acuminatis serratis, cirrhis 2-fidis, petiolo nervisque pubescentibus, cymis longe pedunculatis dichotome ramosis rarius gracilibus divaricatis, floribus minutis, calyce breviter 5-lobo, petalis liberis, disco membranaceo truncato, baccis sphæricis pallide cyaneis.

VITIS heterophylla. *Thunb. var. β, Siebold et Zuccarini, Abhandl. Baier. Akad. Wissenschaft*, iv. *v.* 2. *p.* 197.

AMPELOPSIS humulifolia. *Bunge, Mem. Sav. Etr. St. Petersb. v.* 2. *p.* 86. *ex Walp. Rep. v.* 1. *p.* 441.

Japan contains many species of Vine, of which several are now growing freely in the open-air at Kew against the walls of plant-houses. Amongst these that figured here was conspicuous this autumn for the peculiar colour of its lovely pale blue berries, its bright red stems, and hop-like foliage, which latter character suggested to Dr. Bunge, its discoverer in North China, the very appropriate name of *humulifolia*. It has since been found in Corea, whence dried specimens and seeds have been received from Mr. C. Wilford, collector for the Royal Gardens, and in Japan, where it was found by the celebrated Japanese traveller Siebold.

The *V. humulifolia* was reduced, by Siebold and Zuccarini, to a variety of the old *V. heterophylla* of Thunberg, a plant that we have growing close by this variety at Kew, and which differs both in appearance and in the scarcely-lobed leaves. By these authors *V. heterophylla* comprises an entire-leaved variety (α) and a cut-leaved variety (β), to the former of which Bunge's *humulifolia* is referred by them; our own specimens, however, of Bunge's plant, received from himself, have deeply lobed leaves, exactly as in our figure. Bunge, indeed, describes his *humulifolia* as having the lower leaves lobed and the upper entire, but in our live plant the lobed foliage is pretty constant throughout, whilst the leaves of our living Japanese specimens of *V. heterophylla* are uniformly entire, or only obscurely lobed throughout.

Descr. A nearly glabrous, climbing, slender vine. *Stems* two to five feet long; *branches* glabrous or pilose, red, nearly terete. *Leaves* on slender red petioles, three- to five-lobed, with a broad open sinus at the base; *lobes* acutely serrate, middle lobe contracted at the base, dark green and rather rugose above, pale beneath, with pubescent veins. *Tendrils* bifid. *Cymes* on slender peduncles, sparingly divided; *branchlets* divaricate. *Flowers* subumbellate, minute, green. *Petals* five, free. *Stamens* on the margin of a rather membranous annular disk surrounding the ovary. *Berries* globular, of a fine pale china-blue colour, dotted with black.—*J. D. H.*

Fig. 1. Bud. 2. Expanded flower:—*magnified.*

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